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ABSTRACT

Procedures and results of a project to develop and verify a list of communication skills that students in postsecondary vocational technical institutes should possess upon graduation are presented in this report. A list of forty-six competencies was developed and sent to 765 vocational technical adult education (VTAE) graduates and 740 employers of VTAE graduates for evaluation. Respondents represented eleven different industrial and service education program areas. Approximately 37% of the employers and 50% of the graduates responded. (Results are presented in fifty-eight pages of tables which show the rank order and mean response for each of the forty-six competencies determined by both the graduates and the employers. Included in the forty-five-page appendix are questionnaires, employer comments, and a listing of communication skills and tasks under headings of speaking, reading, writing, listening, and miscellaneous. (BL)

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FINAL REPORT

Project No. 14-040-151-185

DEVELOPING AND VERIFYING A LIST OF COMPETENCIES FOR THE COMMUNICATION SKILLS AREA IN VOCATIONAL-TECHNICAL POST-SECONDARY EDUCATION

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Mid-State Vocational, Technical and Adult Education District
Wisconsin Rapids, Wisconsin

Earl F. Jaeger, District Director

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To complete this study it was necessary that numerous organizational units participate in preparing for the study, as well as for carrying out the study. These organizational units included (a) the Wisconsin Vocational, Technical and Adult Education Board staff, (b) the Student Services Departments of the Wisconsin VTAE Districts, and (c) the management and instructional staff members of the Mid-State VTAE District.

Thank you.

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CHAPTER I

THE INTRODUCTION

A major goal of post-secondary vocational education is to prepare individuals for immediate employment upon graduation and to enable them to advance in their selected occupations. Competencies acquired in communication classes are a vital component of the student's curriculum.

There is little question that in Wisconsin, the post-secondary vocational education students are acquiring many of the necessary skills in their major program areas, such as welding, machine shop, accounting, dietetic technician, and fire science. The competencies required to perform in their major vocational field--for example, welding or dietetic technician--have been determined during the past years. Considerable research has been conducted in these major vocational occupations. But what are the competencies in social science, physical science, mathematics and communications that the Wisconsin post-secondary technical institute graduates should possess. This research effort is designed to determine these competencies in the communication skills areas that the vocational-technical graduates should possess.

The word "skills" implies that there are recognizable competencies that can be taught and tested. These competencies

are usually broadly recognized as reading, writing, speaking, and listening. The skills, for example, of correct comma placement and reading for major ideas and supporting details, can be taught and tested. However, employers are looking for more than this for they know that the execution of many tasks succeeds or fails with the employee's ability to send and receive communications. Students must, therefore, become more aware of effective and ineffective communication procedures. This must be coupled with an awareness of behavior in communication procedures, revealing how all communication affects the relationships between people. Skill practice in these areas must become an integral part of communication skills courses.

These skills are especially important to allow progress in employment as nothing in the world of work is initiated or completed without a multitude of communication skills being used at all levels and by all members of the organization. Reading and writing skills should not be emphasized less, but speaking and listening skills must be taught and tested also in the total preparation for men and women in job placement and advancement. Job-related communication competencies give credibility to communication skills classes and to vocational-technical education. This study will

determine communications skills in eleven post-secondary vocational education programs, including one-year Vocational Diploma programs, two-year Vocational Diploma programs, and Associate Degree programs.

CHAPTER II

THE PROBLEM

The problem that suggested a survey of supervisors and VTAE graduates to determine the importance of specific communication skills competencies for a select number of vocational-technical programs has been introduced. It is a problem that exists for each course that becomes a part of a specific vocational-technical program. It is a particular problem for Communication Skills because of the important nature of the skill of communication in the life of an individual. Through this ability to communicate effectively men tangle and untangle themselves from a never ending series of relationships with their fellow men on the job and off the job.

Much of the success of graduate-employees depends on their competencies in using communication skills. If the communication class he attended did not prepare the welder for job advancement, he will not become a technician with his firm. He must be able to communicate his ideas if he is to progress, for regardless of technical abilities, there comes a time when he will be passed over if he cannot communicate effectively. Too often, this becomes apparent only after time spent on the job and promotions that by-passed him.

The problem of this survey is an informational one. If success on the job at the time of initial employment and advancement on the job depend on the employee's competencies in using specific communication skills, then what these essential skills are and the degree to which they are important need to be identified. There are two sources which would give valid input about those communication skills which are critical to job success. One would be the vocational-technical graduate himself, and the other would be the supervisor of the specific job areas.

The graduate of a vocational-technical program who is working at a job related to his program would be able to provide relevant responses as to which communication skills should be taught in the classroom. His daily work responsibilities enable him to evaluate the communication skills which he has found important in his work and those which are not important. Although relevant information about the level of importance of various communication skills can be obtained from the graduate on the job, his evaluation is always as incomplete as his work experience. Initial job entry communication skills may be far different from those skills needed a year or five years after being on the job.

Obtaining information about the degree of importance of communication skills on the job from the graduate of a vocational-technical program, therefore, would have to be a secondary source. As a primary source for information, it was decided to go to the supervisor or foreman of a specific job area. Supervisors would be an excellent source for valid information because they usually obtain their position by demonstrating competency and by also having moved up the job ladder through years of experience. The supervisor would be the one person most familiar with the full range of job requirements. The supervisor stands in the best position to advise communication skills teachers of the competencies required because he is responsible for the production and performance of the employees in his department.

Many informational surveys have used personnel directors, managers, or executives as the primary sources for responses. In the larger companies, these people are often too far removed from the communication skills requirements of the departmental employee. The immediate overseer of the employee's job responsibilities would seem to be the best source, and so the immediate supervisors of the employees became the primary information source for this survey.

Some vocational-technical schools have tried to make their communication skills classes more relevant by hiring only communication skills teachers who have had extensive occupational experience. In reality, this practice might be rather inconsequential. The communications teachers with occupational backgrounds usually had their experience in only one occupational area. Regardless of the scheduling procedure, the communications teacher with occupational background in business machines or printing is most often teaching communication classes representing many programs or a program unrelated to his or her occupational experience. Questionable too, is the significance of occupational experience that occurred several years ago.

The reader should not feel that this present discussion is unrelated to the major objective of this research effort. The questions raised about the relevancy of faculty work background, and the questions to be asked next about faculty educational background are significant. Hopefully, the answers to these questions strengthen the premise that teachers of communication skills must depend on supervisors and employees in business and industry to develop relevant courses of study.

To point up the significance of this position, consider the following question: Who, in vocational-technical schools in Wisconsin is responsible for developing the courses of study for the various communication skills courses? The answer is an obvious one--the communications teachers themselves. In many cases the course of study for any particular communications course is the product of one individual.

When a close look is taken at the typical educational background of the individual who has been responsible for developing a communications curriculum, the necessity for surveying the needs of business and in-

dustry becomes grossly understated. The typical communication skills teacher has little or no occupational background for the programs represented in the classroom. In addition, if the instructor has followed a standard academic route, s/he majored in college English and from there secured a high school job teaching English. From high school s/he moved into a vocational-technical institute, probably having started or possibly completed a master's degree in English during the high school tenure.

When looking closely at course requirements, one finds that undergraduate and graduate degrees emphasize literature, writing, and speech. The vocational-technical schools get communication skills instructors who are prepared in few world of work related language skills and concepts. Furthermore, the typical college English major has been instructed by his own kind--men and women who have never been outside of the classroom. The English major is strong in American novelists, Romantic poets, platform speaking, Black poetry, contemporary writers, and a host of seminars that prepare him for very little that is related to the communication skills needed in today's world of work. Is it any wonder that many communication skills teachers wonder whether what they are teaching comes anywhere near to doing an adequate job of preparing graduates of vocational-technical programs to be competent in using specific communication skills required at the time of initial job entry and required for job advancement?

It is also important to note that the development of vocational-technical programs at the local level and their continued up-dating is in part handled through on-going advisory committees. The advisory committee concept has given significant input into the development of course content for the hard-core courses making up every vocational-technical program. The advisory committee consists of employers and employees from the program area.

Advisory committees usually do not concern themselves with the course content of communication skills because these classes are required and their content is already determined by their very existence for other on-going programs. What is significant in terms of this survey project is the advisory committee concept itself: it is considered important to have direct representatives from the world of work, employers and employees contributing their expertise in developing the curriculums for the classes in a particular program. This is sound direction. No one is better qualified to know what competencies are needed to be a business machines supervisor, an auto mechanic, a welder, or a policeman than the people working in these positions and supervising these positions. Similarly, the researchers of this project sought to seek the advice from supervisors throughout Wisconsin in order to determine the degree of importance of specific communication skills competencies for 13 programs.

Summary:

The previous discussion has tried to analyze the need to survey supervisors of the jobs related to the programs offered in the vocational-technical system concerning communication skills competencies for initial employment and for advancement on the job.

Some of the significant reasons for getting input from supervisors in business and industry about on-the-job communication skills competencies have been given. This information is needed by communication departments and individual communication skills teachers to help them determine their course content. Briefly, these reasons are as follows:

1. Most colleges and universities do not prepare English teachers to develop course content for communications classes in VTAE institutes.
2. Most communications teachers do not usually come with extensive

occupational experience. The practice of heterogeneous grouping prevents any communications teacher from possessing the necessary on-the-job work experience in each training program.

3. The advisory committee concept functions adequately for the courses directly related to the program major; however, the general education courses (communication skills) are without meaningful input because they serve all programs.

CHAPTER III

LITERATURE REVIEW

Lucy Crawford (1967), Virginia Polytechnical Institute, Blacksburg, Virginia, conducted a five-year study titled "A Competency Pattern Approach to Curriculum Construction in Distributive Education." This was a very excellent study in competency-based education in distributive education. In this study there were 983 competencies determined necessary to successfully work in these occupations. The data for these competencies were obtained through interviews with employees on the job and the supervisors of these employees. These data were then evaluated by paired distributive specialists.

The competencies were then organized into eight areas: advertising, communications, human relations, mathematics, merchandising, operations and management, product and/or service technology and selling. Crawford determined that next to human relations, communications is the most needed group of competencies in developing successful persons for distributive occupations. The communications competencies included skills in speaking (especially on a one-to-one basis), listening, gestures, and writing as applied to use on the job.

According to "Solutions for the Seventies: An Analysis of Competency-Based Learning and Cluster Colleges--A Report of the National Dissemination Project and the Community Colleges," a commitment to the philosophy of "full opportunity" must be made in education (1973). The author, Chuck Weinstock, states that the learning capacity of individuals differs so greatly that our educational institutions must be restructured to meet the needs of individuals. He feels that if the reforms in teaching techniques of the 1960's were indeed reforms, these reforms must be furthered by changes in structure in the 1970's. Patching and repackaging old

methods and content is not enough as statistics show that we keep out, drop out, and turn off more people than we graduate. Weinstock also wrote there should be a structure that allows the flexibility and freedom for individuals to grow intellectually and realize their educational goals. Competency-based learning might be an answer. It is based on the belief that an individual is educated only when he has knowledge and understanding, as well as the values or attitudes which enable and compel him to use this knowledge and understanding. Degrees could then be awarded on the basis of demonstrated and verified competence, not on the basis of credit hours accumulated concludes Weinstock.

Regarding the commitment to the philosophy of "full opportunity" as mentioned in the foregoing study, Charles F. Nichols (1970) in "Vocational Education for the Disadvantaged--Seven Years Later" states that "there is really no absolute commitment to vocational-technical education for the disadvantaged--nationally, regionally, or on the state or local level. Nichols' view is that these students must be managed with techniques different from those who have had the advantages that make it possible for them to succeed in the present school system. As victims of what Nichols calls the "failure syndrome" the disadvantaged students have adapted. Being surrounded by failure in their family, their friends, and their neighborhood, they are much more comfortable with failure than success. Where work has traditionally not existed, there is little achievement motivation. The attitudes of many of the disadvantaged, formulated over a lifetime, cannot be changed quickly. Therefore, the need for supportive services increases rather than decreases if the disadvantaged are to believe in the rewards of work, an attitude that is alien to them.

The Muskegon Area Skill Training Center took attitudinal change into

account and devoted the first six months of its program to the improvement of overall employability. The second six months was focused on the preparation for specific employment. Instruction was geared to occupational and practical problems and the classroom learning experiences were related to the daily needs of the students. Teachers kept in mind that students needed to change their basic attitudes toward learning, society, and responsibility. "Helping these kids out of their problems" was the dominant feeling expressed by the staff. Their findings also stated that people most easily improve upon the abilities that they have strength in:

...ability has an envelope or band like quality and if a person is in a beneficial environment, for that person, and is given adequate support and nurturance he then will have a greater chance to demonstrate environmental efficiency.

Thus it would seem, the nondisadvantaged must take risks in departing from tradition to help those who never profited from the traditional method. There will be some failures but also some successes as in the Muskegon Area Skill Training Center. And, hopefully, the practical nature of competency-based learning, with competencies determined by the practical job analysis of employee-graduates and supervisors of those graduates, is part of the answer.

Previous research in the communication skills area revealed that similar projects done in Wisconsin were usually limited to a particular VTAE district. State-wide curriculum evaluation surveys involving former students and employers have been completed in Mechanical Design, Electronics, Auto Mechanics, Civil-Highway, Civil-Structural Architectural, and Metals Trades, but these projects concerned themselves with a definitive survey of the skills, tasks, and competencies for the curriculum being studied. In these studies, communication skills competencies were surveyed only incidentally. The major concern in each of these surveys

was the degree of job proficiency required by employers for specific job-related activities. These surveys were not so concerned with identifying specific communication skills or tasks and, therefore, merely asked how essential it was to be knowledgeable in the broader communicative areas of writing, speaking, listening, or reading.

A study done by Dickerson and Paulsen (1972) analyzed the skills needed by insurance major graduates who had received associate degrees. The study involved 169 insurance companies who were members of the Insurance Company Education Directors Society. All of the firms that responded to the survey agreed with the necessity of a Communications I course. The description of Communications I was: "The course covers an introduction to modern communications with emphasis placed on language structure, mechanics of style, development of listening skill, and oral communications."

Of the 169 companies surveyed, 35 companies were interviewed personally. The study states that: "Ninety percent of the companies interviewed seemed to be impressed with the curriculum that is being presently offered and felt that as much emphasis as possible should be placed on the communications courses." Communications II was described as: "Designed to improve the student's speaking, reading, writing, and listening skills. Includes writing of business letters, developing a data sheet, and writing reports." This is as definitive as was necessary for this study.

A more definitive study in analyzing general tasks performed by workers in various fields was "Articulation of General Education and Occupational Competencies," at Southwest Wisconsin Vocational-Technical Institute by William K. Wolfe (1973). In producing curriculum in general education courses which is supportive to the major program areas,

they created 112 new course outlines, each with a task list of behavioral objectives. The methodology employed took into account "the prescribed occupational competencies demanded by area employment."

Similar studies limited in scope (geographical and/or number of programs) have been completed by communications instructors within the Wisconsin VTAE system. These surveys were usually seminar papers completed in partial fulfillment of the requirements of a master's degree. These studies were most helpful in identifying approaches and procedures that need to be considered when designing and executing the survey of business and industry to determine the importance of communication skills competencies.

Harold Erickson (1967) found a scarcity of research to bring communications programs to a parallel with technical growth. He found that the constantly changing demands of industry had brought about little change in academic areas, mainly English. The distressing factor herein was that Erickson's responses showed that between 57.2 and 69 percent of the technician's time was spent in communicative skills. The result was a two-semester Communication Skills program for the technician, designed to meet the demands of industry.

Roberta Lewis (1971) conducted "A Study to Determine the Communication Skill Needs of the Vocational Student in the Basic Communications Curriculum." This study included five vocational training programs: auto mechanics, diesel mechanics, machine shop, metal fabrication, and wood technics. The response to 211 questionnaires indicated that reading and listening skills are of the greatest importance to the employees in these areas.

Glen Morgan (1973) studied "Speech Qualification Traits Needed by Marketing Graduates of Lakeshore Technical Institute." This study was

limited to ten industries in Manitowoc County. The local industries stated that the graduates of LTI had the needed speech qualifications for success in marketing positions.

David Maurice Radloff (1973) "An Examination to Determine the English Competencies Required of Secretaries in the Administrative, Legal, and Medical Areas with a Synthesis into a Core of Common Competencies to be Used in Forming a Basis for an English Curriculum," conducted a study to determine the English competencies required of secretaries in the Medical, Legal, and Administrative Secretarial areas. He also used the questionnaire/interview method, using 50 questionnaires and 10 interviews in each of the three secretarial areas, distributing them to employers and employee/graduates. His response indicated that "the fundamentals of English like grammar, spelling, and vocabulary are the primary responsibility of the educator." Radloff concluded that "the emphasis on making school 'fun' and avoiding stress on memory, and stress on stress itself . . . seems to be almost 180 degrees off from what the employer wants. Therefore, it is suggested that the long-term happiness and satisfaction derived from successful competition in the world of work is more desirable than the short-term happiness of a stress-free, noncompetitive educational interlude, and that employability enhancing approaches be stressed."

Everett E. Walde (1973) conducted "A Survey to Determine the Effectiveness of a Communication Skills Course for Trade and Industrial Graduates of a Technical Vocational School." He sent out 221 questionnaires from the District One Technical Vocational School at Eau Claire, Wisconsin, eliciting information from employers and employees on the percentage of their work that required oral or written performance, how many employers required additional training in the communication area,

and how the instructional aspect of the course could be changed to better prepare the employee for future work. The results of the survey revealed that over 50% of both groups suggested that more oral and written practice be given to the students at technical-vocational schools. Walde concluded as follows:

1. The major areas of inadequacy reported by the employer and felt by the employee are in writing reports and business letters and in oral presentation of material.
2. Approximately 50% of the respondents are involved in written and oral communication in their present work.
3. Approximately one-third of the employees are required to attend some type of communications class.
4. About 50% of the employees and employers suggested more training be given in the areas of oral speech and reading, mechanics of punctuation and sentence structure, and written work.

In April, 1975, "Developing a List of Competencies for the Communication Skills Area" was completed by Dr. Max Farning, Project Supervisor, Elaine Boyce and Ralph Mahnke, Research Assistants. This study developed 40 competencies for the Communication Skills area.

The data for these 40 competencies were obtained through interviews with communications instructors throughout the state, courses of study and outlines used in the schools visited, previous communication skills surveys; examination of textbooks in communication skills area; and a computer scan of literature related to the study that had been classified in the ERIC system. The resulting list of over 100 competencies was refined through the Communications Department at Mid-State Technical Institute, and field-testing with employees and supervisors, faculty and management team at Mid-State Technical Institute, an ad hoc committee,

and Mr. Robert Johnson and Mr. Roland Krogstad, Educational Consultants at the State VTAE Board. Former graduates and supervisors in 13 program areas were then randomly surveyed throughout the state with a questionnaire containing the final list of 40 competencies. Personal interviews were also conducted using the same questionnaire.

The program areas that were surveyed were Accounting, Data Processing, Marketing, Clerk Typist, Stenographer, Secretarial Science, Mechanical Drafting, Machine Tool Operation, Practical Nursing, Medical Assistant, Operating Room Assistant, Electronics, and Mechanical Design. The criteria used in determining which programs would be surveyed were that the programs would be offered in at least 5 of the 16 VTAE districts and the programs would have to be occupationally clustered. The clusters were as follows:

BUSINESS CLUSTER

10-101	Accounting
10-107	Business Data Processing
10-104	Marketing

SECRETARIAL CLUSTER

31-106	Clerk Typist
31-106	Stenographer
10-106	Secretarial Science

INDUSTRIAL MACHINE CLUSTER

31-421	Mechanical Drafting
32-421	Mechanical Drafting
31-420	Machine Tool Operation
32-420	Machine Tool Operation

HEALTH CLUSTER

31-510	Practical Nursing
31-509	Medical Assistant
31-512	Operating Room Assistant

INDUSTRIAL TECHNOLOGY CLUSTER

10-605 Electronic Technology
10-606 Mechanical Design

The study presents the rank order and mean response for each of the forty competencies as determined by supervisors and as determined by graduate/employees in each of the 13 programs as well as for each program cluster. The recommendations were that this information be used in the development of courses of study for communication skills classes. Emphasis could then be placed on the most important competencies if the concept of clustering is used in scheduling students for communication skills classes. The survey results gave strong support to the cluster concept and evidence surfaced that Wisconsin VTAE educational programs can be clustered for the purpose of teaching-learning communication skills. Because of the relatedness of job tasks and responsibilities in many occupations, the clustering concept would allow teachers to do a better job of preparing students in communication skills important in their occupations. The study further recommended that similar surveys be conducted in other occupational areas in the Wisconsin VTAE system. Thus, the current study was an outgrowth of this recommendation.

CHAPTER IV

DESIGN OF THE STUDY

The major purpose of this project was to develop and verify a list of communication skills that students in Wisconsin post-secondary vocational-technical institutes should possess upon graduation. Because this study was in sequence to one conducted one year earlier, entitled "Developing a List of Competencies for the Communication Skills Area in Vocational-Technical Post-secondary Education," this study benefited greatly from the earlier study.

The study design was as follows:

1. Review the literature.
2. Hold a State-wide meeting of communication skills instructors in the Wisconsin VTAE system to get their input into the list of competencies.
3. Establish an Ad Hoc committee to assist in determining the list of competencies. Have a meeting of this Ad Hoc committee.
4. Develop the questionnaire and determine the method of analysis.
5. Determine the program areas to be surveyed.
6. Determine the sample size.
7. Gather the data.
8. Analyze the data.
9. Prepare the final results.
10. Disseminate the results.

PROGRAMS SURVEYED

A Workshop for Instructors of Communication Skills at Appleton, Wisconsin on November 26-27, 1974 was centered around evaluating, analyzing and refining the competencies identified in the research project 14-040-151-184 "Developing a List of Competencies for the Communication Skills Area." Approximately 40 Wisconsin VTAE instructors of communication skills attended this workshop. The instructors were also asked what programs they wanted surveyed in the present project 14-033-151-185, "Developing and Verifying the List of Competencies for the Communication Skills Area."

The industrial area was felt to be the area on which most instructors wanted the research concentrated. They emphasized the following areas: Small Engine and Chassis Repair, Welding, Auto Mechanics, Auto Body, Printing, and Electronic Servicing. Interest was also expressed in the areas of Agriculture/Agribusiness, Instrumentation, Police Science, Child Care, Food Service Management, Restaurant-Hotel Cookery, Fashion Merchandising, Business Machines, Dental Assistant, Medical Laboratory Technician, Merchandising, Interior Design, Commercial Art, and Wood Technics.

The criteria used in determining which programs should be surveyed were:

1. Programs surveyed in the previous project (14-040-151-184) would not be done.
2. The programs surveyed would have to be offered in at least 5 of the 16 districts.

The researchers met with Robert Johnson, Vocational Education Consultant for General Education to determine what programs would be surveyed. Food Service Management and Restaurant-Hotel Cookery were eliminated because of the extensive study done by Lucy Crawford (1967) "A Competency

Pattern Approach to Curriculum Construction in Distributive Education."

Crawford and her staff spent five years interviewing and surveying owners, managers, and employees in distribution to determine 983 competencies, 95 of which were common to three-quarters of the 69 jobs in the study. It was felt, therefore, that further research was not necessary in the area of distributive education at this time.

Fashion Merchandising was eliminated because Marketing was surveyed in the previous project and employer contact might be much the same. Wood Technics was eliminated because of the current economic state, forcing the temporary closing of many employing factories thereby negatively affecting returns.

Because of the heavy emphasis in the industrial area by instructors, this area was felt to be of primary importance. By applying the criterion that each program would have to have offered in at least 5 of the 16 districts and by limiting to a total of 14 programs the survey included the following:

31-103	Business Machines
31-404	Auto Mechanic
32-404	Auto Mechanic
31-404	Auto Body
31-442	Welding
31-404	Small Engine and Chassis Repair
31-204	Printing
32-414	Electronic Servicing
10-503	Fire Science Technology
10-504	Police Science Technology
31-520	Child Care Assistant
31-508	Dental Assistant
10-513	Medical Laboratory Technician
10-605	Instrumentation

TYPE AND SIZE OF SAMPLE

It was decided to randomly sample both VTAE graduates and employers of VTAE graduates of each of the 14 programs being surveyed. Approximately 35-50 supervisors and 35-50 VTAE graduates were randomly selected for each of the 14 programs. It was felt that a minimum of 20 responses per program within each response group--VTAE graduates and employers--was necessary to insure meaningful results. Also, it was felt that the 35-50 sample size would result in the 20 responses per cell.

When a VTAE district in the state VTAE system is designated to conduct a state-wide survey, the names and addresses of VTAE graduates and the names and addresses of employers are obtained from each of the sixteen districts through a letter from the Wisconsin VTAE Director.

For this study, the letter sent by the state board to each of the sixteen districts identified the project, explained its intent, and requested two things:

1. The names and addresses of graduating students from June, 1974.
2. Follow-up Reports for 1973 and/or 1974.

Every district did not offer each of the 14 programs to be surveyed; therefore, accompanying the letter to each district was a sheet listing the 14 programs and specifying the number of names and addresses needed for those programs offered in that district.

Because of the limited number of graduates in two of the programs--(a) small engine and chassis repair and (b) instrumentation--the project personnel decided not to conduct research in these two program areas.

Also it was decided to combine the one-year (31-404) auto mechanics program and the two-year (32-404) auto mechanics program for purposes of this project as it would be nearly impossible for employers to distinguish between the competencies required of one-year and two-year program graduates. Thus, 11 program areas remained in which to conduct research. These 11 program areas are as follows:

31-103 Business Machines	31-204 Printing
31-508 Dental Assistant	31-414 Electronic Servicing
10-513 Medical Laboratory Technician	10-503 Fire Science Technology
31-404/32-404 Auto Mechanics	10-504 Police Science Technology
31-404 Auto Body	31-520 Child Care
31-442 Welding	

In those programs within the categories of graduates and employers where there are less than 20 returns, a follow-up mailing will be conducted. The follow-up cover letters will be identical to the original cover letters with the exception of the words: HELP! We Need Your Response To Make Communications Courses RELEVANT. A second questionnaire and postage-paid envelope will be enclosed as in the original mailing. (See Appendix H, page 117 for the follow-up letter.) Accordingly, a second mailing was conducted within the following five cells: (a)Supervisors of Auto Mechanics, (b)Supervisors of Medical Laboratory Technicians, (c)Graduates of Printing, (d)Graduates of Fire Science, and (e)Graduates of Medical Laboratory Technicians.

CHAPTER V

RESULTS OF THE STUDY

The results of this study are presented in tables 1 through 29.

Table 1 provides data on the number of persons who were sent instruments, number of instruments returned, and percent of instruments returned within each of the 11 program areas studied. Table 2 is a comprehensive table providing the rank order and mean response for each of the 46 competencies within each of the 11 program areas and the 2 clusters as determined by graduates of these programs who are now employed in these occupations. Table 3 is also a comprehensive table providing the rank order and mean response for each of the 46 competencies within the 11 program areas and the 2 clusters as determined by the immediate supervisors of employees within these occupations.

Each table of tables 4 through 14 provides the rank order and mean response for each of the 46 competencies within one program area as determined by graduates who are now employed in that occupation. Each table of tables 15 through 25 provides the rank order and mean response for each of the 46 competencies within one program as determined by the immediate supervisors of persons employed within this occupation. Table 26 provides the rank order and mean response for each of the 46 competencies as determined by program graduates within the industrial cluster. Table 27 provides the rank order and mean response for each of the 46 competencies as determined by program graduates within the

service cluster. Table 28 provides the rank order and mean response for each of the 46 competencies as determined by supervisors within the industrial cluster. Table 29 provides the rank order and mean response for each of the 46 competencies as determined by supervisors within the service cluster.

Table 1

NUMBER OF INSTRUMENTS SENT AND
NUMBER AND PERCENT OF INSTRUMENTS RETURNED

	SUPERVISORS			GRADUATES		
	No. of Supervisors Sent Instruments	No. of Instruments Returned	%	No. of Graduates Sent Instruments	No. of Instruments Returned	%
INDUSTRIAL CLUSTER						
Auto Mechanic	90	24	27%	143	64	45%
Auto Body	90	25	28%	104	37	36%
Welding	84	42	50%	121	46	38%
Printing	96	29	30%	32	21	66%
Electronic Servicing	84	25	30%	111	44	40%
Sub-totals	444	145	33%	511	212	41%
SERVICE CLUSTER						
Fire Science	80	30	38%	40	23	58%
Police Science	72	31	43%	87	39	45%
Child Care Assistant	84	34	40%	87	52	60%
Sub-totals	236	95	40%	214	114	53%
NON CLUSTERS						
Business Machines	77	26	34%	56	23	41%
Dental Assistant	84	31	37%	105	46	44%
Medical Laboratory Technician	60	24	40%	40	22	55%

Table 2

RANK ORDER AND MEAN RESPONSE OF THE FORTY-SIX COMMUNICATION SKILLS COMPETENCIES
WITHIN PROGRAMS AND PROGRAM CLUSTERS ACCORDING TO RESPONSES OF VTAE GRADUATES

35

THE ELEVEN PROGRAMS AND TWO PROGRAM CLUSTERS

COMPETENCIES	31-103 Business Machines (n = 23)	31-326 Dental Assistant (n = 46)	10-513 Medical Laboratory Assistant (n = 22)	31-404 Automobile Mechanic (n = 64)	31-404 Automobile Body (n = 37)	31-442 Welding (n = 46)	31-304 Printing (n = 21)	31-414 Electronic Servicing (n = 44)	Industrial Cluster	10-503 Fire Science (n = 23)	10-404 Police Science (n = 39)	31-329 Child Care (n = 32)	Service Cluster
Read to comprehend job-related journals and technical materials	(28)* 2.70**	(26) 3.15	(13) 3.68	(4) 4.00	(11.5) 3.27	(10) 3.13	(19.5) 3.06	(8) 3.77	(8)*** 3.44**	(14.5) 3.87	(19) 4.13	(28) 3.04	(20) 3.68
Listen carefully and impartially	(2) 4.22	(6) 4.28	(7) 4.00	(6) 3.94	(4) 3.78	(3) 3.85	(3.5) 3.81	(12) 3.61	(3) 3.80	(3) 4.43	(2) 4.62	(6.5) 4.15	(2) 4.40
Give instructions orally	(16) 3.22	(10.5) 4.02	(10.5) 3.77	(15) 3.38	(11.5) 3.27	(9) 3.26	(5.5) 3.62	(19) 3.30	(10) 3.37	(5) 4.35	(13) 4.28	(2.5) 4.23	(3) 4.20
Recognize, understand, and remember essential information	(1) 4.57	(2) 4.43	(3) 4.50	(1) 4.37	(1) 4.30	(1) 4.54	(1) 4.62	(2) 4.41	(1) 4.45	(1) 4.52	(1) 4.79	(9) 4.08	(1) 4.46
Spell Correctly	(12) 3.61	(22) 3.33	(14.5) 3.64	(31) 2.75	(19) 2.86	(25) 2.26	(11) 3.24	(34) 2.75	(26) 2.77	(35.5) 3.09	(36) 3.50	(26) 3.29	(34) 3.32
Distinguish main ideas from supporting details	(24) 2.83	(27) 3.13	(25) 3.00	(18) 3.33	(22) 2.73	(8) 3.28	(25) 2.90	(26) 3.16	(15) 3.08	(29.5) 3.52	(22.5) 3.97	(29) 2.98	(29) 3.49
Use telephone effectively	(6.5) 3.78	(13) 3.96	(17) 3.55	(29.5) 2.81	(11.5) 3.27	(39.5) 1.70	(42) 2.06	(16) 3.36	(30.5) 2.64	(18.5) 3.78	(26) 3.92	(33.5) 2.87	(26.5) 3.52
Use communication skills to cooperate with others	(10) 3.70	(3) 4.41	(8.5) 3.95	(9) 3.86	(5.5) 3.68	(5) 3.57	(9.5) 3.33	(9.5) 3.75	(6.5) 3.64	(8) 4.04	(10.5) 4.33	(5) 4.16	(8) 4.18
Write technical reports	(45) 1.78	(46) 1.96	(29) 2.91	(42.5) 2.14	(42.5) 1.92	(37.5) 1.72	(46) 1.70	(43) 2.32	(45) 1.96	(29.5) 3.52	(22.5) 3.97	(43) 2.12	(38) 3.20
Give criticism in a constructive manner	(30) 2.65	(25) 3.17	(29) 2.91	(20) 3.30	(17.5) 2.95	(18) 2.61	(16.5) 3.10	(27) 3.09	(17.5) 3.01	(12) 3.91	(34.5) 3.62	(18) 3.63	(19) 3.72
Write brief reports (Memos, informal reports, etc.)	(35) 2.48	(44) 2.11	(34.5) 2.73	(34) 2.57	(36.5) 2.11	(35.5) 1.76	(33) 2.62	(29) 2.89	(33) 2.39	(24) 3.61	(26.5) 3.87	(32) 2.90	(30) 3.46
Follow grammatical standards in speaking	(16) 3.22	(20) 3.39	(31.5) 2.77	(35) 2.54	(38.5) 2.05	(32.5) 1.87	(36) 2.52	(39.5) 2.57	(34) 2.31	(39) 2.96	(37) 3.54	(13) 3.77	(31) 3.42
When writing express ideas clearly and to the point	(19.5) 3.09	(28) 2.91	(23) 3.09	(21) 3.25	(29) 2.49	(26.5) 2.22	(22.5) 3.00	(14.5) 3.48	(22) 2.89	(18.5) 3.78	(13) 4.28	(24.5) 3.31	(17) 3.79
Demonstrate your own listening through feed-back (Observable response)	(16) 3.22	(18) 3.59	(20) 3.27	(24) 3.00	(21) 2.75	(15.5) 2.76	(29) 2.79	(20.5) 3.27	(21) 2.91	(21.5) 3.65	(31.5) 3.77	(20) 3.49	(21) 3.64

Question to clarify information	(8.5) 3.74	(15) 3.87	(4) 4.23	(6) 3.94	(7) 3.49	(6) 3.46	(3.5) 3.81	(3) 4.00	(4) 3.76	(12) 3.91	(10.5) 4.33	(15) 3.71	(13) 3.96
Handle relationships with customers or clients competently	(8.5) 3.74	(4) 4.33	(5.5) 4.14	(3) 4.03	(2.5) 4.03	(21) 2.50	(7.5) 3.57	(4) 4.05	(19.5) 2.92	(12) 3.91	(4.5) 4.54	(10.5) 3.96	(9) 4.14
Prepare and present data orally	(28) 2.70	(39.5) 2.54	(41.5) 2.45	(36) 2.52	(33.5) 2.27	(34) 1.78	(36) 2.38	(42) 2.45	(36) 2.28	(33) 3.30	(39.5) 3.46	(31) 2.92	(37) 3.23
Write directions and procedures	(33.5) 2.52	(29) 2.87	(19) 3.32	(29.5) 2.81	(29) 2.49	(31) 1.93	(13.5) 3.14	(31) 2.84	(30.5) 2.64	(31) 3.48	(38) 3.51	(33.5) 2.87	(36) 3.29
Take notes	(36.5) 2.43	(41) 2.35	(37.5) 2.68	(39) 2.34	(38.5) 2.05	(35.5) 1.76	(36) 2.52	(37) 2.61	(38) 2.26	(40) 2.87	(20) 4.10	(44) 2.10	(42) 3.02
Identify own strengths and weaknesses in communication skills	(38.5) 2.35	(21) 3.37	(34.5) 2.73	(27) 2.88	(32) 2.36	(23.5) 2.30	(33) 2.62	(33) 2.80	(32) 2.59	(24) 3.61	(33) 3.69	(24.5) 3.31	(25) 3.54
Adapt message to reading and listening audience	(43.5) 1.83	(30) 2.83	(41.5) 2.45	(38) 2.36	(42.5) 1.92	(45.5) 1.43	(43.5) 2.00	(37) 2.61	(42.5) 2.06	(34) 3.26	(42) 3.33	(22.5) 3.33	(35) 3.31
Prepare and present information in graphic form (Charts, graphs, models, etc.)	(46) 1.43	(43) 2.22	(34.5) 2.73	(46) 1.86	(46) 1.68	(43.5) 1.50	(41) 2.10	(46) 2.09	(46) 1.85	(43) 2.70	(46) 2.56	(45) 1.96	(46) 2.41
Use communication skills to bring about cooperation with others	(24) 2.83	(14) 3.96	(14.5) 3.64	(19) 3.32	(23) 2.68	(15.5) 2.76	(19.5) 3.05	(23) 3.23	(17.5) 3.01	(14.5) 3.87	(15) 4.21	(6.5) 4.15	(10) 4.06
Maintain confidentiality concerning job-related information	(3) 4.09	(10.5) 4.02	(2) 4.77	(26) 2.89	(20) 2.78	(19) 2.58	(16.5) 3.10	(23) 3.23	(19.5) 2.92	(32) 3.35	(13) 4.28	(12) 3.84	(16) 3.82
Participate in problem-solving or informational discussion group	(33.5) 2.52	(33.5) 2.85	(37.5) 2.68	(23) 3.03	(31) 2.46	(26.5) 2.22	(22.5) 3.00	(23) 3.23	(24.5) 2.79	(38) 3.04	(41) 3.44	(17) 3.67	(32) 3.38
Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)	(36.5) 2.43	(6) 4.28	(22) 3.18	(32) 2.88	(27) 2.51	(22) 2.35	(22.5) 3.00	(30) 2.86	(29) 2.88	(35.5) 3.09	(28.5) 3.87	(1) 4.31	(18) 3.76
Be able to speak informally before a group of people	(42) 2.00	(38) 2.61	(43) 2.36	(37) 2.49	(41) 1.95	(32.5) 1.87	(39) 2.29	(32) 2.82	(36) 2.28	(21.5) 3.65	(25) 3.95	(27) 3.17	(24) 3.59
Follow grammatical standards in writing	(40) 2.13	(35.5) 2.63	(40) 2.55	(40) 2.27	(44) 1.89	(37.5) 1.72	(31) 2.71	(41) 2.51	(39) 2.22	(42) 2.74	(39.5) 3.46	(30) 2.94	(40.5) 3.05
Persuade people to accept new ideas, change opinion, or strengthen beliefs	(31) 2.61	(17) 3.76	(34.5) 2.73	(14) 3.43	(14.5) 3.16	(12) 2.98	(13.5) 3.14	(17.5) 3.34	(13) 3.21	(26) 3.57	(22.5) 3.97	(22.5) 3.33	(22) 3.62
When speaking express ideas clearly and to the point	(5) 3.83	(6) 4.28	(12) 3.73	(8) 3.90	(8) 3.46	(7) 3.37	(7.5) 3.57	(6) 3.91	(6.5) 3.64	(6) 4.17	(9) 4.38	(4) 4.17	(5) 4.24
Understand occupational terminology	(18) 3.13	(1) 4.46	(1) 4.86	(2) 4.14	(2.5) 4.03	(2) 4.02	(2) 4.14	(1) 4.47	(2) 4.16	(2) 4.48	(7.5) 4.46	(14) 3.75	(6) 4.23
Be able to stand up and speak before a group of people	(43.5) 1.83	(45) 2.09	(45) 1.95	(41) 2.21	(45) 1.76	(39.5) 1.70	(45) 1.95	(37) 2.61	(44) 2.05	(24) 3.61	(31.5) 3.77	(39) 2.71	(33) 3.36
Make judgments and respond without emotional involvement	(19.5) 3.09	(23) 3.22	(8.5) 3.95	(16) 3.35	(17.5) 2.95	(13.5) 2.80	(26.5) 2.86	(17.5) 3.34	(16) 3.06	(4) 4.39	(3) 4.59	(16) 3.69	(7) 4.22
Proofread and edit written documents	(26) 2.74	(42) 2.28	(44) 2.00	(45) 2.08	(36.5) 2.11	(45.5) 1.43	(28) 2.80	(44) 2.25	(40) 2.13	(46) 2.22	(43) 3.18	(46) 1.94	(45) 2.45

Recognize and carry out public relations activities	(41) 2.09	(35.5) 2.63	(39) 2.64	(33) 2.65	(33.5) 2.27	(42) 1.54	(40) 2.25	(35) 2.70	(36) 2.28	(17) 3.83	(22.5) 3.97	(40) 2.70	(28) 3.50
Punctuate correctly	(28) 2.70	(33.5) 2.65	(26.5) 2.95	(42.5) 2.14	(40) 1.97	(43.5) 1.50	(36) 2.52	(45) 2.18	(42.5) 2.06	(45) 2.36	(45) 3.00	(36) 2.82	(43) 2.73
Read quickly (skim) for important information	(36.5) 2.35	(37) 2.80	(26.5) 2.95	(17) 3.34	(29) 2.49	(29) 2.11	(30) 2.76	(28) 3.07	(28) 2.75	(41) 2.77	(34.5) 3.62	(37) 2.77	(40.5) 3.06
Be tactful	(11) 3.65	(8) 4.24	(5.5) 4.14	(12) 3.53	(11.5) 3.27	(17) 2.73	(16.5) 3.10	(5) 4.00	(11) 3.33	(7) 4.09	(7.5) 4.46	(2.5) 4.23	(4) 4.26
Summarize materials	(24) 2.83	(29.5) 2.54	(29) 2.91	(25) 2.94	(26) 2.56	(20) 2.54	(33) 2.62	(20.5) 3.27	(24.5) 2.79	(37) 3.06	(30) 3.79	(41) 2.56	(39) 3.13
Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)	(14) 3.48	(24) 3.18	(16) 3.59	(13) 3.50	(14.5) 3.16	(23.5) 2.30	(12) 3.19	(9.5) 3.75	(14) 3.18	(9.5) 3.96	(17.5) 4.15	(38) 2.73	(23) 3.61
Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)	(4) 3.91	(12) 4.00	(18) 3.45	(28) 2.83	(25) 2.62	(28) 2.13	(22.5) 3.00	(25) 3.20	(27) 2.76	(20) 3.68	(27) 3.90	(10.5) 3.96	(14) 3.85
Accept criticism	(6.5) 3.78	(9) 4.17	(10.5) 3.77	(6) 3.94	(5.5) 3.68	(4) 3.61	(5.5) 3.62	(7) 3.89	(5) 3.75	(9.5) 3.96	(17.5) 4.15	(8) 4.10	(11) 4.07
Distinguish fact from opinion	(21) 2.96	(19) 3.48	(21) 3.23	(11) 3.72	(16) 3.06	(11) 3.09	(26.3) 2.86	(14.5) 3.48	(12) 3.25	(16) 3.86	(6) 4.51	(19) 3.61	(12) 3.99
Receive complaints	(13) 3.57	(16) 3.83	(24) 3.05	(10) 3.80	(9) 3.44	(13.5) 2.80	(9.5) 3.33	(11) 3.66	(9) 3.41	(37.5) 3.55	(4.5) 4.54	(21) 3.44	(15) 3.84
Compose an effective business letter	(32) 2.57	(37) 2.62	(46) 1.86	(44) 2.11	(35) 2.19	(41) 1.59	(43.5) 2.00	(39.5) 2.57	(41) 2.09	(44) 2.43	(44) 3.03	(42) 2.31	(44) 2.59
Gather and organize information	(22) 2.91	(32) 2.78	(31.5) 2.77	(22) 3.12	(24) 2.64	(30) 2.04	(16.5) 3.10	(13) 3.52	(23) 2.88	(27.5) 3.55	(16) 4.18	(35) 2.84	(26.5) 3.52
Means for Programs and Program Clusters	2.95	3.29	3.23	3.07	2.76	2.46	2.92	3.18	2.86	3.55	3.94	3.30	3.60

*Rank Order

**Mean response on a 5-point Likert scale when 5 points were awarded for each Extremely Important response, 4 points for Very Important, 3 points for Important, 2 points for Moderately Important, and 1 point for Not Important.

***Rank Order determined by Program Cluster Means

****Program Cluster Means of Program Means

Table 3

RANK ORDER AND MEAN RESPONSE OF THE FORTY-SIX COMMUNICATIONS SKILLS COMPETENCIES
WITHIN PROGRAMS AND PROGRAM CLUSTERS ACCORDING TO RESPONSES OF SUPERVISORS

THE ELEVEN PROGRAMS AND TWO PROGRAM CLUSTERS

COMPETENCIES	31-103 Business Machine (n = 26)	31-308 Dental Assistant (n = 31)	10-313 Medical Laboratory Assistant (n = 24)	31-404 Automobile Mechanic (n = 23)	31-404 Automobile Body (n = 23)	31-442 Welding (n = 42)	31-204 Printing (n = 28)	31-414 Electronic Servicing (n = 25)	Industrial Cluster	10-503 Fire Science (n = 30)	10-504 Police Science (n = 30)	31-500 Child Care (n = 34)	Service Cluster
Read to comprehend job-related journals and technical materials	(35)* 2.81**	(33) 3.13	(18) 3.57	(1.5) 4.39	(9) 3.80	(22.5) 2.88	(25.5) 3.21	(12) 3.64	(11)*** 3.56**	(9) 3.93	(23.5) 3.73	(26) 3.53	(18.5) 3.73
Listen carefully and impartially	(3) 4.12	(5) 4.55	(2) 4.21	(3) 4.26	(4) 4.16	(2) 4.12	(1.5) 4.45	(3) 4.36	(2) 4.27	(4.5) 4.10	(3) 4.50	(3.5) 4.53	(4) 4.38
Give instructions orally	(18) 3.38	(14) 3.97	(13) 3.71	(20) 3.26	(18.5) 3.12	(7) 3.56	(21) 3.39	(16) 3.54	(16) 3.37	(4.5) 4.10	(11) 4.10	(8) 4.21	(6) 4.14
Recognize, understand, and remember essential information	(1.5) 4.46	(2.5) 4.58	(1) 4.42	(1.5) 4.39	(1) 4.48	(1) 4.29	(1.5) 4.45	(1) 4.58	(1) 4.44	(1) 4.60	(2) 4.53	(5) 4.47	(1) 4.53
Spell correctly	(23.5) 3.12	(19.5) 3.68	(13) 3.71	(37) 2.77	(30) 2.64	(41) 2.10	(3) 4.17	(27.5) 2.92	(28) 2.92	(39) 3.07	(34) 3.47	(29) 3.47	(36) 3.34
Distinguish main ideas from supporting details	(12.5) 3.54	(21.5) 3.61	(17) 3.58	(18) 3.39	(15) 3.40	(9) 3.52	(9) 3.76	(14.5) 3.56	(13) 3.53	(20.5) 3.63	(27.5) 3.63	(20.5) 3.85	(21) 3.70
Use telephone effectively	(10) 3.62	(5) 4.55	(8) 3.83	(33) 2.83	(22) 2.88	(38) 2.14	(29) 3.07	(9.5) 3.72	(27) 2.93	(7) 4.03	(22) 3.80	(20.5) 3.85	(14) 3.89
Use communication skills to cooperate with others	(5) 3.92	(15) 3.87	(15.5) 3.67	(14) 3.74	(13) 3.48	(6) 3.69	(30) 2.97	(6) 3.88	(12) 3.55	(31) 3.47	(16) 4.00	(9) 4.18	(15.5) 3.88
Write technical reports	(43) 2.27	(39) 2.70	(26) 3.29	(40.5) 2.48	(40) 2.20	(42) 1.98	(37) 2.72	(37.5) 2.44	(42) 2.36	(31) 3.47	(21) 3.83	(43.5) 2.65	(37) 3.32
Give criticism in a constructive manner	(23.5) 3.12	(21.5) 3.61	(11) 3.75	(20) 3.26	(17) 3.16	(12) 3.41	(12) 3.69	(25) 3.04	(17) 3.31	(26) 3.53	(31) 3.53	(11) 4.09	(20) 3.72
Write brief reports (Memos, informal reports, etc.)	(38) 2.69	(45) 2.43	(40) 2.75	(35.5) 2.78	(42) 2.08	(30) 2.48	(39) 2.66	(27.5) 2.92	(37) 2.58	(28) 3.50	(16) 4.00	(31) 3.38	(24) 3.63

Follow grammatical standards in speaking	(32) 2.88	(18.5) 3.77	(30.5) 3.00	(38.5) 2.57	(34.5) 2.44	(39.5) 2.12	(34) 2.83	(33) 2.68	(38) 2.53	(45) 2.73	(37.5) 3.40	(22.5) 3.79	(36.5) 3.31
When writing express ideas clearly and to the point	(17) 3.40	(35) 3.06	(29) 3.04	(29) 3.09	(24) 2.76	(26) 2.71	(27) 3.14	(9.5) 3.72	(24) 3.08	(43) 3.80	(7) 4.23	(25) 3.62	(15.5) 3.88
Demonstrate your own listening through feedback (Observable responses)	(15.5) 3.42	(25) 3.43	(22) 3.39	(20) 3.26	(25) 2.74	(13) 3.36	(16) 3.59	(23) 3.24	(20) 3.24	(33.5) 3.43	(26) 3.67	(17.5) 3.91	(22) 3.67
Question to clarify information	(6) 3.88	(9) 4.19	(13) 3.71	(7) 4.00	(7) 3.96	(4) 3.90	(13.5) 3.66	(5) 4.20	(3.5) 3.94	(7) 4.03	(18.5) 3.60	(6.5) 4.27	(7) 4.06
Handle relationships with customers or clients competently	(4) 3.96	(1) 4.68	(4) 4.08	(6) 4.09	(2) 4.40	(24) 2.85	(17) 3.55	(2) 4.44	(6) 3.87	(2) 4.24	(4) 4.43	(3.5) 4.53	(3) 4.40
Prepare and present data orally	(32) 2.88	(18) 3.70	(15.5) 3.67	(33) 2.83	(32) 2.52	(27) 2.67	(31.5) 2.86	(30.5) 2.72	(32) 2.72	(10) 3.87	(36) 3.43	(33) 3.30	(28.5) 3.53
Write directions and procedures	(30) 2.92	(35) 3.06	(35.5) 3.92	(30.5) 2.87	(33) 2.48	(29) 2.57	(40) 2.55	(30.5) 2.72	(34) 2.64	(28) 3.50	(25) 3.70	(38) 3.24	(32) 3.48
Take notes	(26) 3.04	(32) 3.20	(19) 3.50	(22.5) 3.22	(38.5) 2.24	(22.5) 2.88	(7) 3.79	(29) 2.88	(25) 3.00	(17.5) 3.70	(12.5) 4.07	(41) 2.91	(26) 3.56
Identify own strengths and weaknesses in communication skills	(27.5) 3.00	(27) 3.36	(35.5) 2.92	(22.5) 3.22	(26) 2.72	(18) 2.96	(11) 3.72	(19.5) 3.36	(22) 3.20	(38) 3.13	(29) 3.57	(24) 3.69	(33.5) 3.46
Adapt message to reading and listening audience	(39) 2.64	(38) 2.71	(39) 2.79	(35.5) 2.78	(36.5) 2.28	(31) 2.44	(44) 2.31	(40) 2.28	(40) 2.42	(20.5) 3.63	(34) 3.47	(34) 3.27	(33.5) 3.46
Prepare and present information in graphic form (Charts, graphs, models, etc.)	(45) 1.96	(40) 2.67	(32.5) 2.96	(46) 1.66	(46) 1.60	(39.5) 2.12	(42) 2.48	(43.5) 2.16	(45) 2.00	(36) 3.17	(46) 2.87	(43.5) 2.66	(43) 2.90
Use communication skills to bring about cooperation with others	(11) 3.56	(28.5) 3.36	(20) 3.46	(18.5) 3.43	(20) 3.04	(10.5) 3.51	(36) 2.79	(22) 3.28	(21) 3.21	(25) 3.57	(40) 3.27	(14.5) 4.00	(25) 3.61
Maintain confidentiality concerning job-related information	(1.5) 4.46	(7) 4.39	(3) 4.17	(16.5) 3.43	(11.5) 3.52	(20) 2.93	(15) 3.62	(18) 3.48	(15) 3.40	(3) 4.13	(1) 4.56	(1) 4.67	(2) 4.45
Participate in problem-solving or informational discussion group	(32) 2.88	(31) 3.23	(21) 3.42	(12.5) 3.78	(18.5) 3.12	(15) 3.24	(41) 2.54	(26) 3.00	(23) 3.14	(31) 3.47	(41) 3.23	(19) 3.88	(26.5) 3.53
Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)	(42) 2.36	(18.5) 3.77	(28) 3.06	(26) 3.13	(30) 2.64	(28) 2.65	(38) 2.69	(43.5) 2.16	(33) 2.65	(40) 2.97	(27.5) 3.63	(17.5) 3.91	(30) 3.50
Be able to speak informally before a group of people	(44) 2.24	(43) 2.61	(43.5) 2.50	(42) 2.22	(42) 2.06	(36.5) 2.25	(34) 2.83	(41.5) 2.20	(43) 2.32	(22.5) 3.60	(31) 3.53	(32) 3.33	(31) 3.49
Follow grammatical standards in writing	(27.5) 3.00	(23) 3.60	(35.5) 2.92	(38.5) 2.57	(36.5) 2.28	(34) 2.36	(23) 3.34	(37.5) 2.44	(36) 2.60	(41) 2.93	(39) 3.37	(35) 3.26	(41) 3.19
Persuade people to accept new ideas, change opinion, or strengthen beliefs	(40) 2.58	(24) 3.52	(35.5) 2.92	(26) 3.13	(21) 3.00	(21) 2.90	(20) 3.41	(19.5) 3.36	(18) 3.28	(28) 3.50	(42) 3.13	(27) 3.52	(35) 3.38
When speaking express ideas clearly and to the point	(14) 3.50	(10.5) 4.06	(8) 3.83	(10) 3.87	(14) 3.44	(10.5) 3.51	(18) 3.48	(11) 3.68	(10) 3.80	(7) 4.03	(9.5) 4.17	(14.5) 4.00	(8) 4.07
Understand occupational terminology	(7) 3.81	(12.5) 4.03	(10) 3.79	(8) 3.96	(3) 4.20	(3) 3.95	(25.5) 3.21	(4) 4.28	(5) 3.92	(15) 3.77	(16) 4.00	(16) 3.97	(13) 3.91
Be able to stand up and speak before a group of people	(45) 2.00	(46) 2.30	(41) 2.63	(45) 1.87	(44) 2.04	(43) 1.83	(45) 2.17	(45) 2.04	(44) 2.01	(33.5) 3.43	(31) 3.53	(40) 2.97	(38.5) 3.31
Make judgments and respond without emotional involvement	(15.5) 3.42	(26.5) 3.35	(23.5) 3.36	(15) 3.61	(16) 3.28	(14) 3.29	(13.5) 3.66	(17) 3.52	(14) 3.47	(22.5) 3.60	(6) 4.27	(13) 4.03	(12) 3.97

Proofread and edit written documents	(21) 3.27	(44) 2.58	(46) 2.17	(40.5) 2.48	(42) 2.08	(45) 1.83	(6) 3.83	(41.5) 2.30	(39) 2.48	(42) 2.83	(37.5) 3.40	(46) 2.56	(42) 2.93
Recognize and carry out public relations activities	(41) 2.44	(41.5) 2.65	(43.5) 2.50	(26) 3.13	(23) 2.84	(36.5) 2.25	(31.5) 2.86	(33) 2.68	(31) 2.75	(17.5) 3.70	(14) 4.03	(28) 3.48	(17) 3.74
Punctuate correctly	(25) 3.08	(26) 3.39	(42) 2.58	(44) 2.00	(38.5) 2.24	(46) 1.69	(9) 3.76	(39) 2.32	(41) 2.40	(46) 2.55	(43) 3.07	(38.5) 3.06	(44) 2.89
Read quickly (skim) for important information	(36) 2.77	(37) 2.77	(32.5) 2.96	(30.5) 2.87	(27) 2.68	(32) 2.39	(23) 3.34	(35) 2.64	(30) 2.78	(43) 2.79	(44) 3.00	(42) 2.85	(45) 2.88
Be tactful	(8) 3.80	(5) 4.55	(5) 4.00	(12.5) 3.78	(5) 4.00	(16) 3.15	(4.5) 4.00	(8) 3.76	(7) 3.74	(16) 3.76	(5) 4.30	(2) 4.56	(5) 4.21
Summarize materials	(37) 2.73	(41.5) 2.65	(38) 2.83	(26) 3.13	(28) 2.67	(33) 2.38	(28) 3.10	(33) 2.68	(29) 2.79	(37) 3.14	(34) 3.47	(37) 3.18	(40) 3.26
Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)	(9) 3.72	(12.5) 4.03	(23.5) 3.38	(11) 3.83	(11.5) 3.52	(19) 2.95	(34) 2.83	(24) 3.20	(19) 3.27	(19) 3.66	(20) 3.90	(38.5) 3.06	(27) 3.54
Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)	(34) 2.85	(8) 4.23	(26) 3.29	(26) 3.13	(30) 2.64	(35) 2.35	(43) 2.36	(36) 2.56	(35) 2.61	(35) 3.41	(23.5) 3.73	(22.5) 3.79	(23) 3.64
Accept criticism	(12.5) 3.54	(2.5) 4.58	(8) 3.83	(4.5) 4.17	(7) 3.96	(5) 3.78	(4.5) 4.00	(7) 3.80	(3.5) 3.94	(12) 3.82	(18.5) 3.93	(6.5) 4.27	(10) 4.01
Distinguish fact from opinion	(19) 3.35	(19.5) 3.68	(6) 3.87	(9) 3.91	(10) 3.64	(8) 3.53	(9) 3.76	(13) 3.60	(8) 3.69	(11) 3.86	(9.5) 4.17	(12) 4.06	(9) 4.03
Receive complaints	(22) 3.16	(10.5) 4.06	(26) 3.29	(4.5) 4.17	(7) 3.96	(17) 3.05	(23) 3.34	(14.5) 3.56	(9) 3.62	(14) 3.79	(12.5) 4.07	(10) 4.13	(11) 4.00
Compose an effective business letter	(29) 2.96	(30) 3.29	(45) 2.42	(43) 2.17	(45) 1.86	(44) 1.88	(46) 1.97	(46) 1.96	(46) 1.97	(44) 2.76	(45) 2.97	(45) 2.58	(46) 2.77
Gather and organize information	(20) 3.31	(35) 3.06	(30.5) 3.00	(33) 2.83	(34.5) 2.44	(25) 2.78	(19) 3.45	(21) 3.32	(26) 2.96	(24) 3.59	(8) 4.20	(30) 3.41	(18.5) 3.73
Means for Programs and Program Clusters	3.17	3.53	3.32	3.21	2.97	2.85	3.25	3.15	3.09	3.55	3.76	3.65	3.65

*Rank Order

**Mean response on a 5-point Likert scale when 5 points were awarded for each Extremely Important response, 4 points for Very Important, 3 points for Important, 2 points for Moderately Important, and 1 point for Not Important.

***Rank Order determined by Program Cluster Means

****Program Cluster Means of Program Means

TABLES 4 THROUGH 14 ON THE FOLLOWING PAGES PRESENT THE
RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES
AS DETERMINED BY SUPERVISORS WITHIN EACH
OF THE FOLLOWING ELEVEN AREAS:

Table 4	Business Machines (31-103)
Table 5	Dental Assistant (31-508)
Table 6	Medical Laboratory Assistant (10-513)
Table 7	Automobile Mechanics (31-404/32-404)
Table 8	Automobile Body (31-404)
Table 9	Welding (31-442)
Table 10	Printing (31-204)
Table 11	Electronic Servicing (31-414)
Table 12	Fire Science (10-503)
Table 13	Police Science (10-504)
Table 14	Child Care (31-520)

Table 4

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF BUSINESS MACHINES (31-103) GRADUATES

(1.5) *	4.46 **	Maintain confidentiality concerning job-related information
(1.5)	4.46	Recognize, understand, and remember essential information
(3)	4.12	Listen carefully and impartially
(4)	3.96	Handle relationships with customers or clients competently
(5)	3.92	Use communication skills to cooperate with others
(6)	3.88	Question to clarify information
(7)	3.81	Understand occupational terminology
(8)	3.80	Be tactful
(9)	3.72	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(10)	3.62	Use telephone effectively
(11)	3.56	Use communication skills to bring about cooperation with others
(12.5)	3.54	Distinguish main ideas from supporting details
(12.5)	3.54	Accept criticism
(14)	3.50	When speaking express ideas clearly and to the point
(15.5)	3.42	Make judgments and respond without emotional involvement
(15.5)	3.42	Demonstrate your own listening through feedback (Observable response)
(17)	3.40	When writing express ideas clearly and to the point
(18)	3.38	Give instructions orally
(19)	3.35	Distinguish fact from opinion
(20)	3.31	Gather and organize information
(21)	3.27	Proofread and edit written documents
(22)	3.16	Receive complaints
(23.5)	3.12	Spell correctly
(23.5)	3.12	Give criticism in a constructive manner
(25)	3.08	Punctuate correctly
(26)	3.04	Take notes

*Rank Order

**Mean response on a 5-point Likert scale when 5 points were awarded for each Extremely Important response, 4 points for Very Important, 3 points for Important, 2 points for Moderately Important, and 1 point for Not Important.

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Table 4

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF BUSINESS MACHINES (31-103) GRADUATES

(27.5)	3.00	Follow grammatical standards in writing
(27.5)	3.00	Identify own strengths and weaknesses in communication skills
(29)	2.96	Compose an effective business letter
(30)	2.92	Write directions and procedures
(32)	2.88	Follow grammatical standards in speaking
(32)	2.88	Prepare and present data orally
(32)	2.88	Participate in problem-solving or informational discussion group
(34)	2.85	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(35)*	2.81**	Read to comprehend job-related journals and technical materials
(36)	2.77	Read quickly (skim) for important information
(37)	2.73	Summarize materials
(38)	2.69	Write brief reports (Memos, informal reports, etc.)
(39)	2.64	Adapt message to reading and listening audience
(40)	2.58	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(41)	2.44	Recognize and carry out public relations activities
(42)	2.36	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(43)	2.27	Write technical reports
(44)	2.24	Be able to speak informally before a group of people
(45)	2.00	Be able to stand up and speak before a group of people
(46)	1.96	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 5

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY SUPERVISORS OF DENTAL ASSISTANT (31-508) GRADUATES

(1)	4.68	Handle relationships with customers or clients competently
(2.5)	4.58	Recognize, understand, and remember essential information
(2.5)	4.58	Accept criticism
(5)	4.55	Listen carefully and impartially
(5)	4.55	Use telephone effectively
(5)	4.55	Be tactful
(7)	4.39	Maintain confidentiality concerning job-related information
(8)	4.23	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(9)	4.19	Question to clarify information
(10.5)	4.06	When speaking express ideas clearly and to the point
(10.5)	4.06	Receive complaints
(12.5)	4.03	Understand occupational terminology
(12.5)	4.03	Complete job-related forms (Reports, purchase requisition, invoices, sales receipts, orders, etc.)
(14)	3.97	Give instructions orally
(15)	3.87	Use communication skills to cooperate with others
(16.5)	3.77	Follow grammatical standards in speaking
(16.5)	3.77	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(18)	3.70	Prepare and present data orally
(19.5)	3.68	Spell correctly
(19.5)	3.68	Distinguish fact from opinion
(21.5)	3.61	Distinguish main ideas from supporting details
(21.5)	3.61	Give criticism in a constructive manner
(23)	3.60	Follow grammatical standards in writing
(24)	3.52	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(25)	3.43	Demonstrate your own listening through feedback (Observable response)
(26)	3.39	Punctuate correctly
(27)	3.38	Identify own strengths and weaknesses in communication skills
(28.5)	3.35	Use communication skills to bring about cooperation with others
(28.5)	3.35	Make judgments and respond without emotional involvement
(30)	3.29	Compose an effective business letter
(31)	3.23	Participate in problem-solving or informational discussion group

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Table 5

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF DENTAL ASSISTANT (310508) GRADUATES

(32)	3.20	Take notes
(33)	3.13	Read to comprehend job-related journals and technical materials
(35)	3.06	When writing express ideas clearly and to the point
(35)	3.06	Write directions and procedures
(35)	3.06	Gather and organize information
(37)	2.77	Read quickly (skim) for important information
(38)	2.71	Adapt message to reading and listening audience
(39)	2.70	Write technical reports
(40)	2.67	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(41.5)	2.65	Recognize and carry out public relations activities
(41.5)	2.65	Summarize materials
(43)	2.61	Be able to speak informally before a group of people
(44)	2.58	Proofread and edit written documents
(45)	2.43	Write brief reports (Memos, informal reports, etc.)
(46)	2.30	Be able to stand up and speak before a group of people

Table 6

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF MEDICAL LABORATORY ASSISTANT (1G-513)
GRADUATES

(1)	4.42	Recognize, understand, and remember essential information
(2)	4.21	Listen carefully and impartially
(3)	4.17	Maintain confidentiality concerning job-related information
(4)	4.08	Handle relationships with customers or clients competently
(5)	4.00	Be tactful
(6)	3.87	Distinguish fact from opinion
(8)	3.83	Use telephone effectively
(8)	3.83	When speaking express ideas clearly and to the point
(8)	3.83	Accept criticism
(10)	3.79	Understand occupational terminology
(11)	3.75	Give criticism in a constructive manner
(13)	3.71	Give instructions orally
(13)	3.71	Spell correctly
(13)	3.71	Question to clarify information
(15.5)	3.67	Use communication skills to cooperate with others
(15.5)	3.67	Prepare and present data orally
(17)	3.58	Distinguish main ideas from supporting details
(18)	3.57	Read to comprehend job-related journals and technical materials
(19)	3.50	Take notes
(20)	3.46	Use communication skills to bring about cooperation with others
(21)	3.42	Participate in problem-solving or informational discussion group
(22)	3.39	Demonstrate your own listening through feedback (Observable response)
(23.5)	3.38	Make judgments and respond without emotional involvement
(23.5)	3.38	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(26)	3.29	Write technical reports
(26)	3.29	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(26)	3.29	Receive complaints
(28)	3.08	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(29)	3.04	When writing express ideas clearly and to the point
(30.5)	3.00	Follow grammatical standards in speaking
(30.5)	3.00	Gather and organize information
(32.5)	2.96	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(32.5)	2.96	Read quickly (skim) for important information
(35.5)	2.92	Write directions and procedures

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Table 6

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF MEDICAL LABORATORY ASSISTANT (10-513)
GRADUATES

(35.5)	2.92	Identify own strengths and weaknesses in communication skills
(35.5)	2.92	Follow grammatical standards in writing
(35.5)	2.92	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(38)	2.83	Summarize materials
(39)	2.79	Adapt message to reading and listening audience
(40)	2.75	Write brief reports (Memos, informal reports, etc.)
(41)	2.63	Be able to stand up and speak before a group of people
(42)	2.58	Punctuate correctly
(43.5)	2.50	Be able to speak informally before a group of people
(43.5)	2.50	Recognize and carry out public relations activities
(45)	2.42	Compose an effective business letter
(46)	2.17	Proofread and edit written documents

Table 7

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF AUTOMOBILE MECHANIC (31-404/32-404)
GRADUATES

(1.5)	4.39	Read to comprehend job-related journals and technical materials
(1.5)	4.39	Recognize, understand, and remember essential information
(3)	4.26	Listen carefully and impartially
(4.5)	4.17	Accept criticism
(4.5)	4.17	Receive complaints
(6)	4.09	Handle relationships with customers or clients competently
(7)	4.00	Question to clarify information
(8)	3.96	Understand occupational terminology
(9)	3.91	Distinguish fact from opinion
(10)	3.87	When speaking express ideas clearly and to the point
(11)	3.83	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(12.5)	3.78	Participate in problem-solving or informational discussion group
(12.5)	3.78	Be tactful
(14)	3.74	Use communication skills to cooperate with others
(15)	3.61	Make judgments and respond without emotional involvement
(16.5)	3.43	Maintain confidentiality concerning job-related information
(16.5)	3.43	Use communication skills to bring about cooperation with others
(18)	3.39	Distinguish main ideas from supporting details
(20)	3.26	Give instructions orally
(20)	3.26	Give criticism in a constructive manner
(20)	3.26	Demonstrate your own listening through feedback (Observable response)
(22.5)	3.22	Take notes
(22.5)	3.22	Identify own strengths and weaknesses in communication skills
(26)	3.13	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(26)	3.13	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(26)	3.13	Recognize and carry out public relations activities
(26)	3.13	Summarize materials
(26)	3.13	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)

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Table 7

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF AUTOMOBILE MECHANIC (31-404/32-404)
GRADUATES

(29)	3.09	When writing express ideas clearly and to the point
(30.5)	2.87	Write directions and procedures
(30.5)	2.87	Read quickly (skim) for important information
(33)	2.83	Gather and organize information
(33)	2.83	Use telephone effectively
(33)	2.83	Prepare and present data orally
(35.5)	2.78	Write brief reports (Memos, informal reports, etc.)
(35.5)	2.78	Adapt message to reading and listening audience
(37)	2.77	Spell correctly
(38.5)	2.57	Follow grammatical standards in speaking
(38.5)	2.57	Follow grammatical standards in writing
(40.5)	2.48	Proofread and edit written documents
(42)	2.22	Be able to speak informally before a group of people
(43)	2.17	Compose an effective business letter
(44)	2.00	Punctuate correctly
(45)	1.87	Be able to stand up and speak before a group of people
(46)	1.64	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 8

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF AUTOMOBILE BODY (31-404) GRADUATES

(1)	4.48	Recognize, understand, and remember essential information
(2)	4.40	Handle relationships with customers or clients competently
(3)	4.20	Understand occupational terminology
(4)	4.16	Listen carefully and impartially
(5)	4.00	Be tactful
(7)	3.96	Question to clarify information
(7)	3.96	Accept criticism
(7)	3.96	Receive complaints
(9)	3.80	Read to comprehend job-related journals and technical materials
(10)	3.64	Distinguish fact from opinion
(11.5)	3.52	Maintain confidentiality concerning job-related information
(11.5)	3.52	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(13)	3.48	Use communication skills to cooperate with others
(14)	3.44	When speaking express ideas clearly and to the point
(15)	3.40	Distinguish main ideas from supporting details
(16)	3.28	Make judgments and respond without emotional involvement
(17)	3.16	Give criticism in a constructive manner
(18.5)	3.12	Give instructions orally
(18.5)	3.12	Participate in problem-solving or informational discussion group
(20)	3.04	Use communication skills to bring about cooperation with others
(21)	3.00	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(22)	2.88	Use telephone effectively
(23)	2.84	Recognize and carry out public relations activities
(24)	2.76	When writing express ideas clearly and to the point
(25)	2.74	Demonstrate your own listening through feedback (Observable response)
(26)	2.72	Identify own strengths and weaknesses in communication skills
(27)	2.68	Read quickly (skim) for important information
(28)	2.67	Summarize materials
(30)	2.64	Spell correctly
(30)	2.64	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(30)	2.64	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(32)	2.52	Prepare and present data orally

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Table 8

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF AUTOMOBILE BODY (31-404) GRADUATES

(33)	2.48	Write directions and procedures
(34.5)	2.44	Follow grammatical standards in speaking
(34.5)	2.44	Gather and organize information
(36.5)	2.28	Follow grammatical standards in writing
(36.5)	2.28	Adapt message to reading and listening audience
(38.5)	2.24	Punctuate correctly
(38.5)	2.24	Take notes
(40)	2.20	Write technical reports
(42)	2.08	Write brief reports (Memos, informal reports, etc.)
(42)	2.08	Be able to speak informally before a group of people
(42)	2.08	Proofread and edit written documents
(44)	2.04	Be able to stand up and speak before a group of people
(45)	1.88	Compose an effective business letter
(46)	1.60	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 9

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF WELDING (31-442) GRADUATES

(1)	4.29	Recognize, understand, and remember essential information
(2)	4.12	Listen carefully and impartially
(3)	3.95	Understand occupational terminology
(4)	3.90	Question to clarify information
(5)	3.78	Accept criticism
(6)	3.69	Use communication skills to cooperate with others
(7)	3.56	Give instructions orally
(8)	3.53	Distinguish fact from opinion
(9)	3.52	Distinguish main ideas from supporting details
(10.5)	3.51	Use communication skills to bring about cooperation with others
(10.5)	3.51	When speaking express ideas clearly and to the point
(12)	3.41	Give criticism in a constructive manner
(13)	3.36	Demonstrate your own listening through feedback (Observable response)
(14)	3.29	Make judgments and respond without emotional involve- ment
(15)	3.24	Participate in problem-solving or informational discussion group
(16)	3.15	Be tactful
(17)	3.05	Receive complaints
(18)	2.96	Identify own strengths and weaknesses in communication skills
(19)	2.95	Complete job-related forms (Reports, purchase requis- itions, invoices, sales receipts, orders, etc.)
(20)	2.93	Maintain confidentiality concerning job-related information
(21)	2.90	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(22.5)	2.88	Read to comprehend job-related journals and technical materials
(22.5)	2.88	Take notes
(24)	2.85	Handle relationships with customers or clients competently
(25)	2.78	Gather and organize information
(26)	2.71	When writing express ideas clearly and to the point
(27)	2.67	Prepare and present data orally
(28)	2.65	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(29)	2.57	Write directions and procedures
(30)	2.48	Write brief reports (Memos, informal reports, etc.)
(31)	2.44	Adapt message to reading and listening audience
(32)	2.39	Read quickly (skim) for important information
(33)	2.38	Summarize materials

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Table 9

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF WELDING (31-442) GRADUATES

(34)	2.36	Follow grammatical standards in writing
(35)	2.35	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(36.5)	2.25	Be able to speak informally before a group of people
(36.5)	2.25	Recognize and carry out public relations activities
(38)	2.14	Use telephone effectively
(39.5)	2.12	Follow grammatical standards in speaking
(39.5)	2.12	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(41)	2.10	Spell correctly
(42)	1.98	Write technical reports
(43)	1.93	Be able to stand up and speak before a group of people
(44)	1.88	Compose an effective business letter
(45)	1.83	Proofread and edit written documents
(46)	1.69	Punctuate correctly

Table 10

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF PRINTING (31-204) GRADUATES

(1.5)	4.45	Listen carefully and impartially
(1.5)	4.45	Recognize, understand, and remember essential information
(3)	4.17	Spell correctly
(4.5)	4.00	Be tactful
(4.5)	4.00	Accept criticism
(6)	3.83	Proofread and edit written documents
(7)	3.79	Take notes
(9)	3.76	Distinguish fact from opinion
(9)	3.76	Punctuate correctly
(9)	3.76	Distinguish main ideas from supporting details
(11)	3.72	Identify own strengths and weaknesses in communication skills
(12)	3.69	Give criticism in a constructive manner
(13.5)	3.66	Question to clarify information
(13.5)	3.66	Make judgments and respond without emotional involvement
(15)	3.62	Maintain confidentiality concerning job-related information
(16)	3.59	Demonstrate your own listening through feedback (Observable response)
(17)	3.55	Handle relationships with customers or clients competently
(18)	3.48	When speaking express ideas clearly and to the point
(19)	3.45	Gather and organize information
(20)	3.41	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(21)	3.39	Give instructions orally
(23)	3.34	Follow grammatical standards in writing
(23)	3.34	Read quickly (skim) for important information
(23)	3.34	Receive complaints
(25.5)	3.21	Understand occupational terminology
(25.5)	3.21	Read to comprehend job-related journals and technical reports
(27)	3.14	When writing express ideas clearly and to the point
(28)	3.10	Summarize materials
(29)	3.07	Use telephone effectively
(30)	2.97	Use communication skills to cooperate with others
(31.5)	2.86	Prepare and present data orally
(31.5)	2.86	Recognize and carry out public relations activities

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Table 10

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF PRINTING (31-204) GRADUATES

(34)	2.83	Follow grammatical standards in speaking
(34)	2.83	Be able to speak informally before a group of people
(34)	2.83	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(36)	2.79	Use communication skills to bring about cooperation with others
(37)	2.72	Write technical reports
(38)	2.69	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(39)	2.66	Write brief reports (Memos, informal reports, etc.)
(40)	2.55	Write directions and procedures
(41)	2.54	Participate in problem-solving or informational discussion group
(42)	2.48	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(43)	2.36	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(44)	2.31	Adapt message to reading and listening audience
(45)	2.17	Be able to stand up and speak before a group of people
(46)	1.97	Compose an effective business letter

Table 11

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY SUPERVISORS OF ELECTRONIC SERVICING (31-414) GRADUATES

(1)	4.58	Recognize, understand, and remember essential information
(2)	4.44	Handle relationships with customers or clients competently
(3)	4.36	Listen carefully and impartially
(4)	4.28	Understand occupational terminology
(5)	4.20	Question to clarify information
(6)	3.88	Use communication skills to cooperate with others
(7)	3.80	Accept criticism
(8)	3.76	Be tactful
(9.5)	3.72	When writing express ideas clearly and to the point
(9.5)	3.72	Use telephone effectively
(11)	3.68	When speaking express ideas clearly and to the point
(12)	3.64	Read to comprehend job-related journals and technical materials
(13)	3.60	Distinguish fact from opinion
(14.5)	3.56	Distinguish main ideas from supporting details
(14.5)	3.56	Receive complaints
(16)	3.54	Give instructions orally
(17)	3.52	Make judgments and respond without emotional involvement
(18)	3.48	Maintain confidentiality concerning job-related information
(19.5)	3.36	Identify own strengths and weaknesses in communication skills
(19.5)	3.36	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(21)	3.32	Gather and organize information
(22)	3.28	Use communication skills to bring about cooperation with others
(23)	3.24	Demonstrate your own listening through feedback (Observable response)
(24)	3.20	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders etc.)
(25)	3.04	Give criticism in a constructive manner
(26)	3.00	Participate in problem-solving or informational discussion group
(27.5)	2.92	Write brief reports (Memos, informal reports, etc.)
(27.5)	2.92	Spell correctly
(29)	2.88	Take notes
(30.5)	2.72	Prepare and present data orally
(30.5)	2.72	Write directions and procedures
(33)	2.68	Recognize and carry out public relations activities
(33)	2.68	Summarize materials

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Table 11

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY SUPERVISORS OF ELECTRONIC SERVICING (31-414) GRADUATES

(33)	2.68	Follow grammatical standards in speaking
(35)	2.64	Read quickly (skim) for important information
(36)	2.56	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(37.5)	2.44	Follow grammatical standards in writing
(37.5)	2.44	Write technical reports
(39)	2.32	Punctuate correctly
(40)	2.28	Adapt message to reading and listening audience
(41.5)	2.20	Proofread and edit written documents
(41.5)	2.20	Be able to speak informally before a group of people
(43.5)	2.16	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(43.5)	2.16	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(45)	2.04	Be able to stand up and speak before a group of people
(46)	1.96	Compose an effective business letter

Table 12

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF FIRE SCIENCE (10-503) GRADUATES

(1)	4.60	Recognize, understand, and remember essential information
(2)	4.24	Handle relationships with customers or clients competently
(3)	4.13	Maintain confidentiality concerning job related information
(4.5)	4.10	Listen carefully and impartially
(4.5)	4.10	Give instructions orally
(7)	4.03	Use telephone effectively
(7)	4.03	Question to clarify information
(7)	4.03	When speaking express ideas clearly and to the point
(9)	3.93	Read to comprehend job-related journals and technical materials
(10)	3.87	Prepare and present data orally
(11)	3.86	Distinguish fact from opinion
(12)	3.82	Accept criticism
(13)	3.80	When writing express ideas clearly and to the point
(14)	3.79	Receive complaints
(15)	3.77	Understand occupational terminology
(16)	3.76	Be tactful
(17.5)	3.70	Recognize and carry out public relations activities
(17.5)	3.70	Take notes
(19)	3.66	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(20.5)	3.63	Distinguish main ideas from supporting details
(20.5)	3.63	Adapt message to reading and listening audience
(22.5)	3.60	Be able to speak informally before a group of people
(22.5)	3.60	Make judgments and respond without emotional involvement
(24)	3.69	Gather and organize information
(25)	3.57	Use communication skills to bring about cooperation with others
(26)	3.53	Give criticism in a constructive manner
(28)	3.50	Write brief reports (Memos, informal reports, etc.)
(28)	3.50	Write directions and procedures
(28)	3.50	Persuade people to accept new ideas, change opinion, or strengthen beliefs

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Table 12

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF FIRE SCIENCE (10-503) GRADUATES

(31)	3.47	Use communication skills to cooperate with others
(31)	3.47	Write technical reports
(31)	3.47	Participate in problem-solving or informational discussion group
(33.5)	3.43	Demonstrate your own listening through feedback (Observable response)
(33.5)	3.43	Be able to stand up and speak before a group of people
(35)	3.41	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(36)	3.17	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(37)	3.14	Summarize materials
(38)	3.13	Identify own strengths and weaknesses in communica- tion skills
(39)	3.07	Spell correctly
(40)	2.97	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(41)	2.93	Follow grammatical standards in writing
(42)	2.83	Proofread and edit written documents
(43)	2.79	Read quickly (skim) for important information
(44)	2.76	Compose an effective business letter
(45)	2.73	Follow grammatical standards in speaking
(46)	2.55	Punctuate correctly

Table 13

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF POLICE SCIENCE (10-504) GRADUATES

(1)	4.55	Maintain confidentiality concerning job-related information
(2)	4.53	Recognize, understand, and remember essential information
(3)	4.50	Listen carefully and impartially
(4)	4.43	Handle relationships with customers or clients competently
(5)	4.30	Be tactful
(6)	4.27	Make judgments and respond without emotional involvement
(7)	4.23	When writing express ideas clearly and to the point
(8)	4.20	Gather and organize information
(9.5)	4.17	Distinguish fact from opinion
(9.5)	4.17	When speaking express ideas clearly and to the point
(11)	4.10	Give instructions orally
(12.5)	4.07	Take notes
(12.5)	4.07	Receive complaints
(14)	4.03	Recognize and carry out public relations activities
(16)	4.00	Write brief reports (Memos, informal reports, etc.)
(16)	4.00	Use communication skills to cooperate with others
(16)	4.00	Understand occupational terminology
(18.5)	3.93	Question to clarify information
(18.5)	3.93	Accept criticism
(20)	3.90	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(21)	3.83	Write technical reports
(22)	3.80	Use telephone effectively
(23.5)	3.73	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(23.5)	3.73	Read to comprehend job-related journals and technical materials
(25)	3.70	Write directions and procedures
(26)	3.67	Demonstrate your own listening through feedback (Observable response)
(27.5)	3.63	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(27.5)	3.63	Distinguish main ideas from supporting details

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Table 13

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
ETERMINED BY SUPERVISORS OF POLICE SCIENCE (10-504) GRADUATES

(29)	3.57	Identify own strengths and weaknesses in communication skills
(31)	3.53	Be able to stand up and speak before a group of people
(31)	3.53	Be able to speak informally before a group of people
(31)	3.53	Give criticism in a constructive manner
(34)	3.47	Adapt message to reading and listening audience
(34)	3.47	Spell correctly
(34)	3.47	Summarize materials
(36)	3.43	Prepare and present data orally
(37.5)	3.40	Proofread and edit written documents
(37.5)	3.40	Follow grammatical standards in speaking
(39)	3.37	Follow grammatical standards in writing
(40)	3.27	Use communication skills to bring about cooperation with others
(41)	3.23	Participate in problem-solving or informational discussion group
(42)	3.13	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(43)	3.07	Punctuate correctly
(44)	3.00	Read quickly (skim) for important information
(45)	2.97	Compose an effective business letter
(46)	2.87	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 14

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF CHILD CARE (31-520) GRADUATES

(1)	4.67	Maintain confidentiality concerning job-related information
(2)	4.56	Be tactful
(3.5)	4.53	Listen carefully and impartially
(3.5)	4.53	Handle relationships with customers or clients competently
(5)	4.47	Recognize, understand, and remember essential information
(6.5)	4.27	Question to clarify information
(6.5)	4.27	Accept criticism
(8)	4.21	Give instructions orally
(9)	4.18	Use communication skills to cooperate with others
(10)	4.13	Receive complaints
(11)	4.09	Give criticism in a constructive manner
(12)	4.06	Distinguish fact from opinion
(13)	4.03	Make judgments and respond without emotional involvement
(14.5)	4.00	Use communication skills to bring about cooperation with others
(14.5)	4.00	When speaking express ideas clearly and to the point
(16)	3.97	Understand occupational terminology
(17.5)	3.91	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(17.5)	3.91	Demonstrate your own listening through feedback (Observable response)
(19)	3.88	Participate in problem-solving or informational discussion group
(20.5)	3.85	Distinguish main ideas from supporting details
(20.5)	3.85	Use telephone effectively
(22.5)	3.79	Follow grammatical standards in speaking
(22.5)	3.79	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(24)	3.69	Identify own strengths and weaknesses in communication skills
(25)	3.62	When writing express ideas clearly and to the point
(26)	3.53	Read to comprehend job-related journals and technical materials
(27)	3.52	Persuade people to accept new ideas, change opinion, or strengthen beliefs

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Table 14

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS OF CHILD CARE (31-520) GRADUATES

(28)	3.48	Recognize and carry out public relations activities
(29)	3.47	Spell correctly
(30)	3.41	Gather and organize information
(31)	3.38	Write brief reports (Memos, informal reports, etc.)
(32)	3.33	Be able to speak informally before a group of people
(33)	3.30	Prepare and present data orally
(34)	3.27	Adapt message to reading and listening audience
(35)	3.26	Follow grammatical standards in writing
(36)	3.24	Write directions and procedures
(37)	3.18	Summarize materials
(38.5)	3.06	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(38.5)	3.06	Punctuate correctly
(40)	2.97	Be able to stand up and speak before a group of people
(41)	2.91	Take notes
(42)	2.85	Read quickly (skim) for important information
(43.5)	2.65	Write technical reports
(43.5)	2.65	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(45)	2.58	Compose an effective business letter
(46)	2.56	Proofread and edit written documents

TABLES 15 THROUGH 25 ON THE FOLLOWING PAGES PRESENT THE
RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES
AS DETERMINED BY GRADUATES OF THE ELEVEN PROGRAM AREAS
WHO ARE NOW EMPLOYED WITHIN THE ELEVEN PROGRAM AREAS:

Table 15	Business Machines (31-103)
Table 16	Dental Assistant (31-508)
Table 17	Medical Laboratory Technician (10-513)
Table 18	Auto Mechanics (31-404/32-404)
Table 19	Auto Body (31-404)
Table 20	Welding (31-442)
Table 21	Printing (31-204)
Table 22	Electronic Servicing (31-414)
Table 23	Fire Science Technology (10-503)
Table 24	Police Science Technology (10-504)
Table 25	Child Care (31-520)

Table 15

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY GRADUATES OF THE BUSINESS MACHINES (31-103) PROGRAM

(1) *	4.57 **	Recognize, understand, and remember essential information
(2)	4.22	Listen carefully and impartially
(3)	4.09	Maintain confidentiality concerning job-related information
(4)	3.91	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(5)	3.83	When speaking express ideas clearly and to the point
(6.5)	3.78	Use telephone effectively
(6.5)	3.78	Accept criticism
(8.5)	3.74	Question to clarify information
(8.5)	3.74	Handle relationships with customers or clients competently
(10)	3.70	Use communication skills to cooperate with others
(11)	3.65	Be tactful
(12)	3.61	Spell correctly
(13)	3.57	Receive complaints
(14)	3.48	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(16)	3.22	Give instructions orally
(16)	3.22	Follow grammatical standards in speaking
(16)	3.22	Demonstrate your own listening through feedback (Observable response)
(18)	3.13	Understand occupational terminology
(19.5)	3.09	When writing express ideas clearly and to the point
(19.5)	3.09	Make judgments and respond without emotional involvement
(21)	2.96	Distinguish fact from opinion
(22)	2.91	Gather and organize information
(24)	2.83	Distinguish main ideas from supporting details
(24)	2.83	Use communication skills to bring about cooperation with others
(24)	2.83	Summarize materials
(26)	2.74	Proofread and edit written documents
(28)	2.70	Punctuate correctly
(28)	2.70	Prepare and present data orally
(28)	2.70	Read to comprehend job-related journals and technical materials
(30)	2.65	Give criticism in a constructive manner

(continued)

*Rank Order

**Mean Response on a 5-point Likert scale when 5 points were awarded for each Extremely Important response, 4 points for Very Important, 3 points for Important, 2 points for Moderately Important, and 1 point for Not Important.

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Table 15

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE BUSINESS MACHINES (31-103) PROGRAM

(31)	2.61	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(32)	2.57	Compose an effective business letter
(33.5)	2.52	Participate in problem-solving or informational discussion group
(33.5)	2.52	Write directions and procedures
(35)	2.48	Write brief reports (Memos, informal reports, etc.)
(36.5)	2.43	Take notes
(36.5)	2.43	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(38.5)	2.35	Identify own strengths and weaknesses in communi- cation skills
(38.5)	2.35	Read quickly (skim) for important information
(40)	2.13	Follow grammatical standards in writing
(41)	2.09	Recognize and carry out public relations activities
(42)	2.00	Be able to speak informally before a group of people
(43.5)	1.83	Adapt message to reading and listening audience
(43.5)	1.83	Be able to stand up and speak before a group of people
(45)	1.78	Write technical reports
(46)	1.43	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 16

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY GRADUATES OF THE DENTAL ASSISTANT (31-508) PROGRAM

(1)	4.46	Understand occupational terminology
(2)	4.43	Recognize, understand and remember essential information
(3)	4.41	Use communication skills to cooperate with others
(4)	4.33	Handle relationships with customers or clients competently
(6)	4.28	Listen carefully and impartially
(6)	4.28	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(6)	4.28	When speaking express ideas clearly and to the point
(8)	4.24	Be tactful
(9)	4.17	Accept criticism
(10.5)	4.02	Maintain confidentiality concerning job-related information
(10.5)	4.02	Give instructions orally
(12)	4.00	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(13)	3.98	Use telephone effectively
(14)	3.96	Use communication skills to bring about cooperation with others
(15)	3.87	Question to clarify information
(16)	3.83	Receive complaints
(17)	3.76	Persuade people to accept new ideas, change opinion, or strengthen beliefs.
(18)	3.59	Demonstrate your own listening through feedback (Observable response)
(19)	3.48	Distinguish fact from opinion
(20)	3.39	Follow grammatical standards in speaking
(21)	3.37	Identify own strengths and weaknesses in communication skills
(22)	3.33	Spell correctly
(23)	3.22	Make judgments and respond without emotional involvement
(24)	3.18	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(25)	3.17	Give criticism in a constructive manner
(26)	3.15	Read to comprehend job-related journals and technical materials
(27)	3.13	Distinguish main ideas from supporting details
(28)	2.91	When writing express ideas clearly and to the point
(29)	2.87	Write directions and procedures

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Table 16

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE DENTAL ASSISTANT (31-508) PROGRAM

(30)	2.83	Adapt message to reading and listening audience
(31)	2.80	Read quickly (skim) for important information
(32)	2.78	Gather and organize information
(33.5)	2.65	Participate in problem-solving or informational discussion group
(33.5)	2.65	Punctuate correctly
(35.5)	2.63	Recognize and carry out public relations activities
(35.5)	2.63	Follow grammatical standards in writing
(37)	2.62	Compose an effective business letter
(38)	2.61	Be able to speak informally before a group of people
(39.5)	2.54	Prepare and present data orally
(39.5)	2.54	Summarize materials
(41)	2.35	Take notes
(42)	2.28	Proofread and edit written documents
(43)	2.22	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(44)	2.11	Write brief reports (Memos, informal reports, etc.)
(45)	2.09	Be able to stand up and speak before a group of people
(46)	1.98	Write technical reports

Table 17

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE MEDICAL LABORATORY
TECHNICIAN (10-513) PROGRAM

(1)	4.86	Understand occupational terminology
(2)	4.77	Maintain confidentiality concerning job-related information
(3)	4.59	Recognize, understand, and remember essential information
(4)	4.23	Question to clarify information
(5.5)	4.14	Handle relationships with customers or clients competently
(5.5)	4.14	Be tactful
(7)	4.09	Listen carefully and impartially
(8.5)	3.95	Use communication skills to cooperate with others
(8.5)	3.95	Make judgments and respond without emotional involvement
(10.5)	3.77	Give instructions orally
(10.5)	3.77	Accept criticism
(12)	3.73	When speaking express ideas clearly and to the point
(13)	3.68	Read to comprehend job-related journals and technical materials
(14.5)	3.64	Spell correctly
(14.5)	3.64	Use communication skills to bring about cooperation with others
(16)	3.59	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(17)	3.55	Use telephone effectively
(18)	3.45	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(19)	3.32	Write directions and procedures
(20)	3.27	Demonstrate your own listening through feedback (Observable response)
(21)	3.23	Distinguish fact from opinion
(22)	3.18	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(23)	3.09	When writing express ideas clearly and to the point
(24)	3.05	Receive complaints
(25)	3.00	Distinguish main ideas from supporting details
(26.5)	2.95	Read quickly (skim) for important information
(26.5)	2.95	Punctuate correctly
(29)	2.91	Write technical reports
(29)	2.91	Give criticism in a constructive manner
(29)	2.91	Summarize materials

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Table 17

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE MEDICAL LABORATORY
TECHNICIAN (10-513) PROGRAM

(31.5)	2.77	Follow grammatical standards in speaking
(31.5)	2.77	Gather and organize information
(34.5)	2.73	Write brief reports (Memos, informal reports, etc.)
(34.5)	2.73	Identify own strengths and weaknesses in communication skills
(34.5)	2.73	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(34.5)	2.73	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(37.5)	2.68	Participate in problem-solving or informational discussion group
(37.5)	2.68	Take notes
(39)	2.64	Recognize and carry out public relations activities
(40)	2.55	Follow grammatical standards in writing
(41.5)	2.45	Prepare and present data orally
(41.5)	2.45	Adapt message to reading and listening audience
(43)	2.36	Be able to speak informally before a group of people
(44)	2.00	Proofread and edit written documents
(45)	1.95	Be able to stand up and speak before a group of people
(46)	1.86	Compose an effective business letter

Table 18

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY GRADUATES OF THE AUTO MECHANICS (31-404/32-404) PROGRAM

(1)	4.37	Recognize, understand, and remember essential information
(2)	4.14	Understand occupational terminology
(3)	4.03	Handle relationships with customers or clients competently
(4)	4.00	Read to comprehend job-related journals and technical materials
(6)	3.94	Listen carefully and impartially
(6)	3.94	Question to clarify information
(6)	3.94	Accept criticism
(8)	3.90	When speaking express ideas clearly and to the point
(9)	3.86	Use communication skills to cooperate with others
(10)	3.80	Receive complaints
(11)	3.72	Distinguish fact from opinion
(12)	3.53	Be tactful
(13)	3.50	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(14)	3.43	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(15)	3.38	Give instructions orally
(16)	3.35	Make judgments and respond without emotional involvement
(17)	3.34	Read quickly (skim) for important information
(18)	3.33	Distinguish main ideas from supporting details
(19)	3.32	Use communication skills to bring about cooperation with others
(20)	3.30	Give criticism in a constructive manner
(21)	3.25	When writing express ideas clearly and to the point
(22)	3.12	Gather and organize information
(23)	3.03	Participate in problem-solving or informational discussion group
(24)	3.00	Demonstrate your own listening through feedback (Observable response)
(25)	2.94	Summarize materials
(26)	2.89	Maintain confidentiality concerning job-related information
(27)	2.88	Identify own strengths and weaknesses in communication skills
(28)	2.83	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(29.5)	2.81	Write directions and procedures
(29.5)	2.81	Use telephone effectively

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Table 18

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE AUTO MECHANICS (31-404/32-404) PROGRAM

(31)	2.75	Spell correctly
(32)	2.68	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(33)	2.65	Recognize and carry out public relations activities
(34)	2.57	Write brief reports (Memos, informal reports, etc.)
(35)	2.54	Follow grammatical standards in speaking
(36)	2.52	Prepare and present data orally
(37)	2.49	Be able to speak informally before a group of people
(38)	2.36	Adapt message to reading and listening audience
(39)	2.34	Take notes
(40)	2.27	Follow grammatical standards in writing
(41)	2.21	Be able to stand up and speak before a group of people
(42.5)	2.14	Punctuate correctly
(42.5)	2.14	Write technical reports
(44)	2.11	Compose an effective business letter
(45)	2.08	Proofread and edit written documents
(46)	1.86	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 19

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS DETERMINED BY GRADUATES OF THE AUTO BODY (31-404) PROGRAM

(1)	4.30	Recognize, understand, and remember essential information
(2.5)	4.03	Handle relationships with customers or clients competently
(2.5)	4.03	Understand occupational terminology
(4)	3.78	Listen carefully and impartially
(5.5)	3.68	Use communication skills to cooperate with others
(5.5)	3.68	Accept criticism
(7)	3.49	Question to clarify information
(8)	3.46	When speaking express ideas clearly and to the point
(9)	3.44	Receive complaints
(11.5)	3.27	Read to comprehend job-related journals and technical materials
(11.5)	3.27	Give instructions orally
(11.5)	3.27	Use telephone effectively
(11.5)	3.27	Be tactful
(14.5)	3.16	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(14.5)	3.16	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(16)	3.08	Distinguish fact from opinion
(17.5)	2.95	Make judgments and respond without emotional involvement
(17.5)	2.95	Give criticism in a constructive manner
(19)	2.86	Spell correctly
(20)	2.78	Maintain confidentiality concerning job-related information
(21)	2.75	Demonstrate your own listening through feedback (Observable response)
(22)	2.73	Distinguish main ideas from supporting details
(23)	2.68	Use communication skills to bring about cooperation with others
(24)	2.64	Gather and organize information
(25)	2.62	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(26)	2.56	Summarize materials
(27)	2.51	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(29)	2.49	Read quickly (skim) for important information
(29)	2.49	Write directions and procedures
(29)	2.49	When writing express ideas clearly and to the point
(31)	2.46	Participate in problem-solving or informational discussion group

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Table 19

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE AUTO BODY (31-404_ PROGRAM

(32)	2.36	Identify own strengths and weaknesses in communication skills
(33.5)	2.27	Prepare and present data orally
(33.5)	2.27	Recognize and carry out public relations activities
(35)	2.19	Compose an effective business letter
(36.5)	2.11	Proofread and edit written documents
(36.5)	2.11	Write brief reports (Memos, informal reports, etc.)
(38.5)	2.05	Follow grammatical standards in speaking
(38.5)	2.05	Take notes
(40)	1.97	Punctuate correctly
(41)	1.95	Be able to speak informally before a group of people
(42.5)	1.92	Write technical reports
(42.5)	1.92	Adapt message to reading and listening audience
(44)	1.89	Follow grammatical standards in writing
(45)	1.76	Be able to stand up and speak before a group of people
(46)	1.68	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 20

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE WELDING (31-442) PROGRAM

(1)	4.54	Recognize, understand, and remember essential information
(2)	4.02	Understand occupational terminology
(3)	3.85	Listen carefully and impartially
(4)	3.61	Accept criticism
(5)	3.57	Use communication skills to cooperate with others
(6)	3.46	Question to clarify information
(7)	3.37	When speaking express ideas clearly and to the point
(8)	3.28	Distinguish main ideas from supporting details
(9)	3.26	Give instructions orally
(10)	3.13	Read to comprehend job-related journals and technical materials
(11)	3.09	Distinguish fact from opinion
(12)	2.98	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(13.5)	2.80	Make judgments and respond without emotional involvement
(13.5)	2.80	Receive complaints
(15.5)	2.76	Use communication skills to bring about cooperation with others
(15.5)	2.76	Demonstrate your own listening through feedback (Observable response)
(17)	2.73	Be tactful
(18)	2.61	Give criticism in a constructive manner
(19)	2.58	Maintain confidentiality concerning job-related information
(20)	2.54	Summarize materials
(21)	2.50	Handle relationships with customers or clients competently
(22)	2.35	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(23.5)	2.30	Identify own strengths and weaknesses in communication skills
(23.5)	2.30	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(25)	2.26	Spell correctly
(26.5)	2.22	When writing express ideas clearly and to the point
(26.5)	2.22	Participate in problem-solving or informational discussion group
(28)	2.13	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(29)	2.11	Read quickly (skim) for important information

(continued)

Table 20

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE WELDING (31-442) PROGRAM

(30)	2.04	Gather and organize information
(31)	1.93	Write directions and procedures
(32.5)	1.87	Follow grammatical standards in speaking
(32.5)	1.87	Be able to speak informally before a group of people
(34)	1.78	Prepare and present data orally
(35.5)	1.76	Take notes
(35.5)	1.76	Write brief reports (Memos, informal reports, etc.)
(37.5)	1.72	Follow grammatical standards in writing
(37.5)	1.72	Write technical reports
(39.5)	1.70	Use telephone effectively
(39.5)	1.70	Be able to stand up and speak before a group of people
(41)	1.59	Compose an effective business letter
(42)	1.54	Recognize and carry out public relations activities
(43.5)	1.50	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(43.5)	1.50	Punctuate correctly
(45.5)	1.43	Adapt message to reading and listening audience
(45.5)	1.43	Proofread and edit written documents

Table 21

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE PRINTING (31-204) PROGRAM

(1)	4.62	Recognize, understand, and remember essential information
(2)	4.14	Understand occupational terminology
(3.5)	3.81	Listen carefully and impartially
(3.5)	3.81	Question to clarify information
(5.5)	3.62	Accept criticism
(5.5)	3.62	Give instructions orally
(7.5)	3.57	Handle relationships with customers or clients competently
(7.5)	3.57	When speaking express ideas clearly and to the point
(9.5)	3.33	Receive complaints
(9.5)	3.33	Use communication skills to cooperate with others
(11)	3.24	Spell correctly
(12)	3.19	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(13.5)	3.14	Write directions and procedures
(13.5)	3.14	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(16.5)	3.10	Give criticism in a constructive manner
(16.5)	3.10	Maintain confidentiality concerning job-related information
(16.5)	3.10	Be tactful
(16.5)	3.10	Gather and organize information
(19.5)	3.05	Use communication skills to bring about cooperation with others
(19.5)	3.05	Read to comprehend job-related journals and technical materials
(22.5)	3.00	When writing express ideas clearly and to the point
(22.5)	3.00	Participate in problem-solving or informational discussion group
(22.5)	3.00	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(22.5)	3.00	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(25)	2.90	Distinguish main ideas from supporting details
(26.5)	2.86	Make judgments and respond without emotional involvement
(26.5)	2.86	Distinguish fact from opinion
(28)	2.80	Proofread and edit written documents
(29)	2.79	Demonstrate your listening through feedback (Observable response)

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Table 21

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE PRINTING (31-204) PROGRAM

(30)	2.76	Read quickly (skim) for important information
(31)	2.71	Follow grammatical standards in writing
(33)	2.62	Write brief reports (Memos, informal reports, etc.)
(33)	2.62	Identify own strengths and weaknesses in communication skills
(33)	2.62	Summarize materials
(36)	2.52	Follow grammatical standards in speaking
(36)	2.52	Take notes
(36)	2.52	Punctuate correctly
(38)	2.38	Prepare and present data orally
(39)	2.29	Be able to speak informally before a group of people
(40)	2.25	Recognize and carry out public relations activities
(41)	2.10	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(42)	2.05	Use telephone effectively
(43.5)	2.00	Compose an effective business letter
(43.5)	2.00	Adapt message to reading and listening audience
(45)	1.95	Be able to stand up and speak before a group of people
(46)	1.70	Write technical reports

Table 22

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE ELECTRONIC SERVICING (31-414)
PROGRAM

(1)	4.47	Understand occupational terminology
(2)	4.41	Recognize, understand and remember essential information
(3)	4.09	Question to clarify information
(4)	4.05	Handle relationships with customers or clients competently
(5)	4.00	Be tactful
(6)	3.91	When speaking express ideas clearly and to the point
(7)	3.89	Accept criticism
(8)	3.77	Read to comprehend job-related journals and technical materials
(9.5)	3.75	Use communication skills to cooperate with others
(9.5)	3.75	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(11)	3.66	Receive complaints
(12)	3.61	Listen carefully and impartially
(13)	3.52	Gather and organize information
(14.5)	3.48	Distinguish fact from opinion
(14.5)	3.48	When writing express ideas clearly and to the point
(16)	3.36	Use telephone effectively
(17.5)	3.34	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(17.5)	3.34	Make judgments and respond without emotional involvement
(19)	3.30	Give instructions orally
(20.5)	3.27	Summarize materials
(20.5)	3.27	Demonstrate your own listening through feedback (Observable response)
(23)	3.23	Use communication skills to bring about cooperation with others
(23)	3.23	Maintain confidentiality concerning job-related information
(23)	3.23	Participate in problem-solving or informational discussion group
(25)	3.20	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(26)	3.16	Distinguish main ideas from supporting details
(27)	3.09	Give criticism in a constructive manner
(28)	3.07	Read quickly (skim) for important information

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Table 22

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE ELECTRONIC SERVICING (31-414)
PROGRAM

(29)	2.89	Write brief reports (Memos, informal reports, etc.)
(30)	2.86	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(31)	2.84	Write directions and procedures
(32)	2.82	Be able to speak informally before a group of people
(33)	2.80	Identify own strengths and weaknesses in communication skills
(34)	2.75	Spell correctly
(35)	2.70	Recognize and carry out public relations activities
(37)	2.61	Take notes
(37)	2.61	Adapt message to reading and listening audience
(37)	2.61	Be able to stand up and speak before a group of people
(39.5)	2.57	Follow grammatical standards in speaking
(39.5)	2.57	Compose an effective business letter
(41)	2.51	Follow grammatical standards in writing
(42)	2.45	Prepare and present data orally
(43)	2.32	Write technical reports
(44)	2.25	Proofread and edit written documents
(45)	2.18	Punctuate correctly
(46)	2.09	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 23

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE FIRE SCIENCE TECHNOLOGY (10-503)
PROGRAM

(1)	4.52	Recognize, understand, and remember essential information
(2)	4.48	Understand occupational terminology
(3)	4.43	Listen carefully and impartially
(4)	4.39	Make judgments and respond without emotional involvement
(5)	4.35	Give instructions orally
(6)	4.17	When speaking express ideas clearly and to the point
(7)	4.09	Be tactful
(8)	4.04	Use communication skills to cooperate with others
(9.5)	3.95	Complete job-related forms (Reports, purchase requisitions, sales receipts, orders, etc.)
(9.5)	3.95	Accept criticism
(12)	3.91	Give criticism in a constructive manner
(12)	3.91	Question to clarify information
(12)	3.91	Handle relationships with customers or clients competently
(14.5)	3.87	Read to comprehend job-related journals and technical materials
(14.5)	3.87	Use communication skills to bring about cooperation with others
(16)	3.86	Distinguish fact from opinion
(17)	3.83	Recognize and carry out public relations activities
(18.5)	3.78	Use telephone effectively
(18.5)	3.78	When writing express ideas clearly and to the point
(20)	3.68	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(21.5)	3.65	Demonstrate your own listening through feedback (Observable response)
(21.5)	3.65	Be able to speak informally before a group of people
(24)	3.61	Write brief reports (Memos, informal reports, etc.)
(24)	3.61	Identify own strengths and weaknesses in communication skills
(24)	3.61	Be able to stand up and speak before a group of people
(26)	3.57	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(27.5)	3.55	Gather and organize information
(27.5)	3.55	Receive complaints
(29.5)	3.52	Write technical reports

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Table 23

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE FIRE SCIENCE TECHNOLOGY (10-503)
PROGRAM

(29.5)	3.52	Distinguish main ideas from supporting details
(31)	3.48	Write directions and procedures
(32)	3.35	Maintain confidentiality concerning job-related information
(33)	3.30	Prepare and present data orally
(34)	3.26	Adapt message to reading and listening audience
(35.5)	3.09	Spell correctly
(35.5)	3.09	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(37)	3.05	Summarize materials
(38)	3.04	Participate in problem-solving or informational discussion group
(39)	2.96	Follow grammatical standards in speaking
(40)	2.87	Take notes
(41)	2.77	Read quickly (skim) for important information
(42)	2.74	Follow grammatical standards in writing
(43)	2.70	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(44)	2.43	Compose an effective business letter
(45)	2.36	Punctuate correctly
(46)	2.22	Proofread and edit written documents

Table 24

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE POLICE SCIENCE TECHNOLOGY (10-504)
PROGRAM

1)	4.79	Recognize, understand, and remember essential information
(2)	4.62	Listen carefully and impartially
(3)	4.59	Make judgments and respond without emotional involvement
(4.5)	4.54	Handle relationships with customers or clients competently
(4.5)	4.54	Receive complaints
(6)	4.51	Distinguish fact from opinion
(7.5)	4.46	Be tactful
(7.5)	4.46	Understand occupational terminology
(9)	4.38	When speaking express ideas clearly and to the point
(10.5)	4.33	Use communication skills to cooperate with others
(10.5)	4.33	Question to clarify information
(13)	4.28	Maintain confidentiality concerning job-related information
(13)	4.28	When writing express ideas clearly and to the point
(13)	4.28	Give instructions orally
(15)	4.21	Use communication skills to bring about cooperation with others
(16)	4.18	Gather and organize information
(17.5)	4.15	Accept criticism
(17.5)	4.15	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(19)	4.13	Read to comprehend job-related journals and technical materials
(20)	4.10	Take notes
(22.5)	3.97	Distinguish main ideas from supporting details
(22.5)	3.97	Write technical reports
(22.5)	3.97	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(22.5)	3.97	Recognize and carry out public relations activities
(25)	3.95	Be able to speak informally before a group of people
(26)	3.92	Use telephone effectively
(27)	3.90	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(28.5)	3.87	Write brief reports (Memos, informal reports, etc.)
(28.5)	3.87	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)

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Table 24

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE POLICE SCIENCE TECHNOLOGY (10-504)
PROGRAM

(30)	3.79	Summarize materials
(31.5)	3.77	Be able to stand up and speak before a group of people
(31.5)	3.77	Demonstrate your own listening through feedback (Observable response)
(33)	3.69	Identify own strengths and weaknesses in communi- cation skills
(34.5)	3.62	Give criticism in a constructive manner
(34.5)	3.62	Read quickly (skim) for important information
(36)	3.59	Spell correctly
(37)	3.54	Follow grammatical standards in speaking
(38)	3.51	Write directions and procedures
(39.5)	3.46	Prepare and present data orally
(39.5)	3.46	Follow grammatical standards in writing
(41)	3.44	Participate in problem-solving or informational discussion group
(42)	3.33	Adapt message to reading and listening audience
(43)	3.18	Proofread and edit written documents
(44)	3.03	Compose an effective business letter
(45)	3.00	Punctuate correctly
(46)	2.56	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 25

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE CHILD CARE (31-520) PROGRAM

(1)	4.31	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(2.5)	4.23	Be tactful
(2.5)	4.23	Give instructions orally
(4)	4.17	When speaking express ideas clearly and to the point
(5)	4.16	Use communication skills to cooperate with others
(6.5)	4.15	Listen carefully and impartially
(6.5)	4.15	Use communication skills to bring about cooperation with others
(8)	4.10	Accept criticism
(9)	4.08	Recognize, understand, and remember essential information
(10.5)	3.98	Handle relationships with customers or clients competently
(10.5)	3.98	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(12)	3.84	Maintain confidentiality concerning job-related information
(13)	3.77	Follow grammatical standards in speaking
(14)	3.75	Understand occupational terminology
(15)	3.71	Question to clarify information
(16)	3.69	Make judgments and respond without emotional involvement
(17)	3.67	Participate in problem-solving or informational discussion group
(18)	3.63	Give criticism in a constructive manner
(19)	3.61	Distinguish fact from opinion
(20)	3.49	Demonstrate your own listening through feedback (Observable response)
(21)	3.44	Receive complaints
(22.5)	3.33	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(22.5)	3.33	Adapt message to reading and listening audience
(24.5)	3.31	When writing express ideas clearly and to the point
(24.5)	3.31	Identify own strengths and weaknesses in communication skills
(26)	3.29	Spell correctly
(27)	3.17	Be able to speak informally before a group of people

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Table 25

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES OF THE CHILD CARE (31-520) PROGRAM

(28)	3.04	Read to comprehend job-related journals and technical materials
(29)	2.98	Distinguish main ideas from supporting details
(30)	2.94	Follow grammatical standards in writing
(31)	2.92	Prepare and present data orally
(32)	2.90	Write brief reports (memos, informal reports, etc.)
(33.5)	2.87	Use telephone effectively
(33.5)	2.87	Write directions and procedures
(35)	2.84	Gather and organize information
(36)	2.82	Punctuate correctly
(37)	2.77	Read quickly (skim) for important information
(38)	2.73	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(39)	2.71	Be able to stand up and speak before a group of people
(40)	2.70	Recognize and carry out public relations activities
(41)	2.56	Summarize materials
(42)	2.31	Compose an effective business letter
(43)	2.12	Write technical reports
(44)	2.10	Take notes
(45)	1.96	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(46)	1.94	Proofread and edit written documents

TABLES 26 AND 27 ON THE FOLLOWING PAGES PRESENT THE
RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX
COMPETENCIES AS DETERMINED BY GRADUATES WITHIN
THE FOLLOWING TWO CLUSTERS:

Table 26 Industrial Cluster

Table 27 Service Cluster

Table 26

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES WITHIN THE
INDUSTRIAL CLUSTER

(Auto Mechanic, Auto Body, Welding, Printing, and Electronic Servicing)

(1)*	4.45**	Recognize, understand, and remember essential information
(2)	4.16	Understand occupational terminology
(3)	3.80	Listen carefully and impartially
(4)	3.76	Question to clarify information
(5)	3.75	Accept criticism
(6.5)	3.64	When speaking express ideas clearly and to the point
(6.5)	3.64	Use communication skills to cooperate with others
(8)	3.44	Read to comprehend job-related journals and technical materials
(9)	3.41	Receive complaints
(10)	3.37	Give instructions orally
(11)	3.33	Be tactful
(12)	3.25	Distinguish fact from opinion
(13)	3.21	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(14)	3.18	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(15)	3.08	Distinguish main ideas from supporting details
(16)	3.06	Make judgments and respond without emotional involvement
(17.5)	3.01	Use communication skills to bring about cooperation with others
(17.5)	3.01	Give criticism in a constructive manner
(19.5)	2.92	Maintain confidentiality concerning job-related information
(19.5)	2.92	Handle relationships with customers or clients competently
(21)	2.91	Demonstrate your own listening through feedback (Observable response)
(22)	2.89	When writing express ideas clearly and to the point
(23)	2.88	Gather and organize information
(24.5)	2.79	Summarize materials
(24.5)	2.79	Participate in problem-solving or informational discussion group
(26)	2.77	Spell correctly
(27)	2.76	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)

*Rank Order of Program Cluster Means

**Program Cluster Means are Means of the Program Means

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RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES WITHIN THE
INDUSTRIAL CLUSTER

(Auto Mechanic, Auto Body, Welding, Printing, and Electronic Servicing)

(28)	2.75	Read quickly (skim) for important information
(29)	2.68	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(30.5)	2.64	Write directions and procedures
(30.5)	2.64	Use telephone effectively
(32)	2.59	Identify own strengths and weaknesses in communication skills
(33)	2.39	Write brief reports (Memos, informal reports, etc.)
(34)	2.31	Follow grammatical standards in speaking
(36)	2.28	Prepare and present data orally
(36)	2.28	Be able to speak informally before a group of people
(36)	2.28	Recognize and carry out public relations activities
(38)	2.26	Take notes
(39)	2.22	Follow grammatical standards in writing
(40)	2.13	Proofread and edit written documents
(41)	2.09	Compose an effective business letter
(42.5)	2.06	Punctuate correctly
(42.5)	2.06	Adapt message to reading and listening audience
(44)	2.05	Be able to stand up and speak before a group of people
(45)	1.96	Write technical reports
(46)	1.85	Prepare and present information in graphic form (Charts, graphs, models, etc.)

Table 27

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES WITHIN THE
SERVICE CLUSTER

(Fire Science, Police Science, and Child Care Assistant)

(1)	4.46	Recognize, understand, and remember essential information
(2)	4.40	Listen carefully and impartially
(3)	4.29	Give instructions orally
(4)	4.26	Be tactful
(5)	4.24	When speaking express ideas clearly and to the point
(6)	4.23	Understand occupational terminology
(7)	4.22	Make judgments and respond without emotional involvement
(8)	4.18	Use communication skills to cooperate with others
(9)	4.14	Handle relationships with customers or clients competently
(10)	4.08	Use communication skills to bring about cooperation with others
(11)	4.07	Accept criticism
(12)	3.99	Distinguish fact from opinion
(13)	3.98	Question to clarify information
(14)	3.85	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(15)	3.84	Receive complaints
(16)	3.82	Maintain confidentiality concerning job-related information
(17)	3.79	When writing express ideas clearly and to the point
(18)	3.76	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(19)	3.72	Give criticism in a constructive manner
(20)	3.68	Read to comprehend job-related journals and technical materials
(21)	3.64	Demonstrate your own listening through feedback (Observable response)
(22)	3.62	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(23)	3.61	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(24)	3.59	Be able to speak informally before a group of people
(25)	3.54	Identify own strengths and weaknesses in communication skills

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RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY GRADUATES WITHIN THE
SERVICE CLUSTER

(Fire Science, Police Science, and Child Care Assistant)

(26.5)	3.52	Use telephone effectively
(26.5)	3.52	Gather and organize information
(28)	3.50	Recognize and carry out public relations activities
(29)	3.49	Distinguish main ideas from supporting details
(30)	3.46	Write brief reports (Memos, informal reports, etc.)
(31)	3.42	Follow grammatical standards in speaking
(32)	3.38	Participate in problem-solving or informational discussion group
(33)	3.36	Be able to stand up and speak before a group of people
(34)	3.32	Spell correctly
(35)	3.31	Adapt message to reading and listening audience
(36)	3.29	Write directions and procedures
(37)	3.23	Prepare and present data orally
(38)	3.20	Write technical reports
(39)	3.13	Summarize materials
(40.5)	3.05	Read quickly (skim) for important information
(40.5)	3.05	Follow grammatical standards in writing
(42)	3.02	Take notes
(43)	2.73	Punctuate correctly
(44)	2.59	Compose an effective business letter
(45)	2.45	Proofread and edit written documents
(46)	2.41	Prepare and present information in graphic form (Charts, graphs, models, etc.)

TABLES 28 AND 29 ON THE FOLLOWING PAGES PRESENT THE
RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX
COMPETENCIES AS DETERMINED BY SUPERVISORS WITHIN
THE FOLLOWING TWO CLUSTER AREAS:

Table 28 Industrial Cluster
Table 29 Service Cluster

Table 28

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS WITHIN THE INDUSTRIAL CLUSTER

(Auto Mechanics, Auto Body, Welding, Printing, and Electronic Servicing)

(1)*	4.44**	Recognize, understand, and remember essential information
(2)	4.27	Listen carefully and impartially
(3.5)	3.94	Question to clarify information
(3.5)	3.94	Accept criticism
(5)	3.92	Understand occupational terminology
(6)	3.87	Handle relationships with customers or clients competently
(7)	3.74	Be tactful
(8)	3.69	Distinguish fact from opinion
(9)	3.62	Receive complaints
(10)	3.60	When speaking express ideas clearly and to the point
(11)	3.58	Read to comprehend job-related journals and technical materials
(12)	3.55	Use communication skills to cooperate with others
(13)	3.53	Distinguish main ideas from supporting details
(14)	3.47	Make judgments and respond without emotional involvement
(15)	3.40	Maintain confidentiality concerning job-related information
(16)	3.37	Give instructions orally
(17)	3.31	Give criticism in a constructive manner
(18)	3.28	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(19)	3.27	Complete job-related forms (Reports, purchase requisition, invoices, sales receipts, orders, etc.)
(20)	3.24	Demonstrate your own listening through feedback (Observable response)
(21)	3.21	Use communication skills to bring about cooperation with others
(22)	3.20	Identify own strengths and weaknesses in communication skills
(23)	3.14	Participate in problem-solving or informational discussion group
(24)	3.08	When writing express ideas clearly and to the point
(25)	3.00	Take notes
(26)	2.96	Gather and organize information
(27)	2.93	Use telephone effectively
(28)	2.92	Spell correctly

*Rank Order of Program Cluster Means

**Program Cluster Means are Means of the Program Means

(continued)

Table 28

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS WITH THE INDUSTRIAL CLUSTER

(Auto Mechanics, Auto Body, Welding, Printing, and Electronic Servicing)

(29)	2.79	Summarize materials
(30)	2.78	Read quickly (skim) for important information
(31)	2.75	Recognize and carry out public relations activities
(32)	2.72	Prepare and present data orally
(33)	2.65	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)
(34)	2.64	Write directions and procedures
(35)	2.61	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(36)	2.60	Follow grammatical standards in writing
(37)	2.58	Write brief reports (Memos, informal reports, etc.)
(38)	2.53	Follow grammatical standards in speaking
(39)	2.48	Proofread and edit written documents
(40)	2.42	Adapt message to reading and listening audience
(41)	2.40	Punctuate correctly
(42)	2.36	Write technical reports
(43)	2.32	Be able to speak informally before a group of people
(44)	2.01	Be able to stand up and speak before a group of people
(45)	2.00	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(46)	1.97	Compose an effective business letter

Table 29

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS WITHIN THE SERVICE CLUSTER

(Fire Science, Police Science, and Child Care Assistant)

(1)	4.53	Recognize, understand, and remember essential information
(2)	4.45	Maintain confidentiality concerning job-related information
(3)	4.40	Handle relationships with customers or clients competently
(4)	4.38	Listen carefully and impartially
(5)	4.21	Be tactful
(6)	4.14	Give instructions orally
(7)	4.08	Question to clarify information
(8)	4.07	When speaking express ideas clearly and to the point
(9)	4.03	Distinguish fact from opinion
(10)	4.01	Accept criticism
(11)	4.00	Receive complaints
(12)	3.97	Make judgments and respond without emotional involvement
(13)	3.91	Understand occupational terminology
(14)	3.89	Use telephone effectively
(15.5)	3.88	Use communication skills to cooperate with others
(15.5)	3.88	When writing express ideas clearly and to the point
(17)	3.74	Recognize and carry out public relations activities
(18.5)	3.73	Read to comprehend job-related journals and technical materials
(18.5)	3.73	Gather and organize information
(20)	3.72	Give criticism in a constructive manner
(21)	3.70	Distinguish main ideas from supporting details
(22)	3.67	Demonstrate your own listening through feedback (Observable response)
(23)	3.64	Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)
(24)	3.63	Write brief reports (Memos, informal reports, etc.)
(25)	3.61	Use communication skills to bring about cooperation with others
(26)	3.56	Take notes
(27)	3.54	Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)
(28.5)	3.53	Participate in problem-solving or informational discussion group
(28.5)	3.53	Prepare and present data orally
(30)	3.50	Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)

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Table 29

RANK ORDER AND MEAN RESPONSE FOR EACH OF THE FORTY-SIX COMPETENCIES AS
DETERMINED BY SUPERVISORS WITHIN THE SERVICE CLUSTER

(Fire Science, Police Science, and Child Care Assistant)

(31)	3.49	Be able to speak informally before a group of people
(32)	3.48	Write directions and procedures
(33.5)	3.46	Identify own strengths and weaknesses in communication skills
(33.5)	3.46	Adapt message to reading and listening audience
(35)	3.38	Persuade people to accept new ideas, change opinion, or strengthen beliefs
(36)	3.34	Spell correctly
(37)	3.32	Write technical reports
(38.5)	3.31	Follow grammatical standards in speaking
(38.5)	3.31	Be able to stand up and speak before a group of people
(40)	3.26	Summarize materials
(41)	3.19	Follow grammatical standards in writing
(42)	2.93	Proofread and edit written documents
(43)	2.90	Prepare and present information in graphic form (Charts, graphs, models, etc.)
(44)	2.89	Punctuate correctly
(45)	2.88	Read quickly (skim) for important information
(46)	2.77	Compose an effective business letter

CONCLUSIONS AND RECOMMENDATIONS

This research project has determined that it is possible to list the skills in the communications area that students in the Wisconsin post-secondary technical institute should possess upon graduation. It appears that these skills can be presented in the classrooms and/or learning laboratories and be learned by the students.

The project personnel recommend that further research in determining competencies in the communication skills area be conducted. Additionally the project personnel recommend that instructional materials and techniques which can be utilized to teach/learn these competencies be identified and categorized.

Also it is recommended that similar research be conducted in other areas of general education--physics, chemistry, mathematics, and social science.

BIBLIOGRAPHY

1. Austin, John J. and Donald A. Sommerfeld. "An Evaluation of Vocational Education for Disadvantaged Youth," Muskegon Public Schools, Michigan, 1967.
2. Crawford, Lucy. "A Competency Pattern Approach to Curriculum Construction in Distributive Education," Final Report, Virginia Polytechnic Institute, Blacksburg, 1967.
3. Dickerson, Jack, and Paulsen, Russell. "Analysis of Skills Needed by Graduates of Associate Degree Insurance Major," Final Report Project No. 15.036.151.222, 1972.
4. Erickson, Harold P. "An Effective English Program for the Technical School," Unpublished Master's Thesis, Wisconsin State University-La Crosse, 1967.
5. Farning, Max and Boyce, Elaine; and Mahnke, Ralph, Mid-State Vocational, Technical and Adult Education District, Wisconsin Rapids, Wisconsin, "Developing a List of Competencies for the Communication Skills Area in Vocational-Technical Education," April, 1975. Microfiche available: AIM/ARM No. VT 102 143.
6. Lewis, Roberta P. "A Study to Determine the Communication Skill Needs of the Vocational Student in the Basic Communications Curriculum," Unpublished Seminar paper, Wisconsin State University-Eau Claire, 1971.
7. Morgan, Glen Michael. "Speech Qualification Traits Needed by Marketing Graduates of Lakeshore Technical Institute," Unpublished Seminar paper, University of Wisconsin-Oshkosh, 1973.
8. Nichols, Charles F. "Vocational Education for the Disadvantaged-Seven Years Later," American Vocational Journal, 45 (Nov. 1970), page 23.
9. Radloff, David Maurice. "An Examination to Determine the English Competencies Required of Secretaries in the Administrative, Legal and Medical Areas with a Synthesis into a Core of Common Competencies to be Used in Forming a Basis for an English Curriculum," Unpublished Master's Thesis, University of Wisconsin-Stout, 1973.
10. Walde, Everett E. "A Survey to Determine the Effectiveness of a Communication Skills Course for Trade and Industrial Graduates of a Technical Vocational School," Journal of Technical Writing and Communication, Vol. 3 (2), pp. 109-130, Spring, 1973.
11. Weinstock, Chuck. "Solutions for the Seventies: An Analysis of Competency-Bases Learning and Cluster Colleges--A Report of

the National Dissemination Project and the Community Colleges," Final Report, Washington State Board for Community College Education, Seattle Research and Planning Office, 1973.

12. Wolfe, William. "Articulation of General Education and Occupational Competencies," Preliminary Report, Southwest Wisconsin Vocational-Technical Institute, 1973.

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APPENDIX A

BIBLIOGRAPHY OF COMMUNICATION SKILLS SURVEY EFFORTS

APPENDIX A

BIBLIOGRAPHY OF STUDIES IN

COMMUNICATION SKILLS

1. Periodicals

Walde, Everett E. "A Survey to Determine the Effectiveness of a Communication Skills Course for Trade and Industrial Graduates of a Technical-Vocational School," Journal of Technical Writing and Communications, Spring, 1973.

2. Unpublished Works

Erickson, Harold P. "An Effective English Program for the Technical School," Unpublished Master's Thesis, Wisconsin State University-

Lake, Catherine L. "A Survey of Business, Science, Industry and Research for the Purpose of Ascertaining the Desires and Needs of Potential Employers Relative to Speech Education for the Technician at Oregon Technical Institute," Unpublished Master's Thesis, University of Oregon, 1968.

Lewis, Roberta P. "A Study to Determine the Communication Skill Needs of the Vocational Student in the Basic Communications Curriculum." Unpublished Master's Thesis, University of Wisconsin-Eau Claire, 1971.

Morgan, Glen Michael. "Speech Qualification Traits Needed by Marketing Graduates of Lakeshore Technical Institute." Unpublished Master's Thesis, University of Wisconsin-Oshkosh, 1973.

Radloff, David Maurice. "An Examination to Determine the English Competencies Required of Secretaries in the Administrative, Legal and Medical Areas with a Synthesis into a Core of Common Competencies to be Used in Forming a Basis for an English Curriculum." Unpublished Master's Thesis, University of Wisconsin-Stout, 1973.

3. AIM/ARM

Mid-State Vocational, Technical and Adult Education District, Wisconsin Rapids, Wisconsin, (Farning, Max and Boyce, Elaine and Mahnke, Ralph) "Developing a List of Competencies for the Communication Skills Area in Vocational-Technical Education," April, 1975. Microfiche available: AIM/ARM No. VT 102 143. .

APPENDIX B
MICROFICHE DOCUMENTS

APPENDIX B

MICROFICHE DOCUMENTS

- ED 022 451 Study of Frequency of Errors and Areas of Weaknesses in Business Communications Classes at Kapiolani Community Coll., Uehara, Soichi, January, 1968.
- ED 074 564 Modern Trends in Persuasion in Business and Industry by William S. Howell, April, 1973.
- ED 021 516 An Effective English Program for the Technical School, by Harold P. Erickson, December, 1967.
- ED 012 765 Human Relations in Agricultural Occupations, Agricultural Machinery--Sales and Service Occupations, Module No. 5. Ohio St. Univ., Columbus, Center for Voc. Educ., August, 1965.
- ED 038 966 The Relationship of Organizational and Leader Factors to Communication Effectiveness in Ill. Public Jr. Coll. by James M. Howard. 1970.
- ED 074 566 Planning for School District Organization--Selected Position Papers Ralph D. Purdy, Ed. Great Plains School District Organization Project, Lincoln, Neb., June, 1968.
- ED 020 197 The teaching of College English to the Scientific and Technical Student. Final Report of the Committee on College English for the Scientific and Technical Student, National Council of Teachers of English, Estrin, H. A. and others. National Council of Teachers of Eng., Ill. November, 1963.
- ED 062 552 Human Attribute Requirements of Work Elements: Further Development of the Occupation Analysis Inventory. Robert W. Neeb, et al. North Carolina State Univ., Raleigh Center for Occupational Education, 1971.
- ED 065 689 Delphi: A Planning Tool. Charles O. Hopkins, et al. Oklahoma State Dept. of Vocational and Technical Education Stillwater Div. on Research, Planning and Evaluation. January, 1972.
- ED 066 618 Technical Education, Carrers Unlimited. Robert W. Worthington, March 15, 1972.
- ED 054 364 Industry-Education Cooperative Program for Preservice and Inservice Vocational and Technical Teacher Training. Final Report. Donald V. Brown. Union Carbide Corp. Oak Ridge, Tenn. Nuclear Div. December, 1970.

- ED 067 492 New Directions in the World of Work. A Conference Report. Charlton R. Price. Upjohn (W. E.) Inst. for Employment Research, Kalamazoo, Mich. March, 1972.
- ED 034 881 The World of Working and Learning. Bush, Donald O., and others. Rocky Mt. Ed. Lab., Inc., Greeley, Colo. Off. of Ed. (DHEW), Wash., D. C. Bureau of Research. June, 1969.
- ED 059 404 Strategies for Teaching English in Career Education. Final Report. Gary L. Houpt, Comp. Delaware State Dept. of Public Instruction, Dover. August, 1971.
- ED 062 554 Two Million Without Skills. Muriel Shay Tapman. Office of Education (DHEW), Washington, D. C. Bureau of Educational Personnel Development. February, 1972.
- ED 065 690 A Comprehensive Career Education Model: A Bridge Between School and Work. Bruce Reinhart, 1972.
- ED 068 724 Work Experience Education; Learning Activity Packages: Exploratory Goals 3-5. California State Polytechnic Coll., San Luis Obispo, 1971.
- ED 068 723 Work Experience Education; Learning Activity Packages: General Goals 1-2. California State Polytechnic Coll., San Luis Obispo, 1971.
- ED 068 722 Work Experience Education; Learning Activity Packages: Vocational Goals 3-5. California State Polytechnic Coll., San Luis Obispo, 1971.
- ED 068 721 Work Experience Education; Learning Activity Packages: Exploratory Goals 1-2. California State Polytechnic Coll., San Luis Obispo, 1971.
- ED 068 720 Work Experience Education Learning Activity Packages: Vocational Goals 1-2. California State Dept. of the Youth Authority, Sacramento, 1971.
- ED 068 719 Work Experience Education: Research for Accountability. California State Polytechnic Coll., San Luis Obispo, 1971.
- ED 072 262 Curriculum Focus: Occupations and the World of Work Information Series 5. Paul W. Devore. West Virginia Univ., Morgantown Appalachian Center, January, 1969.
- ED 076 797 Survey of Post-Placement Experience of TAT Graduates. Charles C. Worth, et al. Oak Ridge Associated Universities, Tenn. April, 1973.
- ED 054 347 Associate Degree Technicians' Judgments on Quality of Instruction and Course Relevancy.
- ED 053 318 The Measurement of Job Relatedness for Vocational Program Evaluation. David N. Wheeler. Minnesota Research Coordinating Unit in Occupational Education Minneapolis, May, 1971.

- ED 016 097 An Evaluation of Vocational Education for Disadvantaged Youth. Austin, John J. Sommerfeld, Donald A. Muskegon Public Schools, Mich. April, 1967.
- ED 032 386 A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Educ. Final Report, Volume IV. Crawford. Virginia Polytechnic Inst., Blacksburg. Spons. AG-Off of Ed (Dhew), Wash., D. C. Bureau of Res. 31 Dec. 67.
- ED 033 154 An Analysis of a Follow-Up Questionnaire Administered to 743 Students who had been Enrolled in Freshman English at Nine Junior Colleges. Gaj, P. Modern Language Assn. of America, New York, N.Y. Eric Clearinghouse on the Teaching of English in Higher Education.
- ED 050 276 Vocational Education Today and Tomorrow. Gerald G. Somers Ed & J. Kenneth Little Ed. Wisconsin Univ. Madison Center for Studies in Vocational and Technical Education 71.
- ED 053 318 The Measurement of Job Relatedness for Vocational Program Evaluation. David N. Wheeler. Minnesota Research Coordinating Unit in Occupational Education, Minneapolis. May 71.
- ED 075 621 Teaching for Employability. Patricia D. Murphy North Dakota State Univ. Fargo Coll. of Home Economics Jun. 72.
- ED 080 111 Solutions for the Seventies: An Analysis of Competency-Based Learning and Cluster Colleges. A Report of the National Dissemination Project for the Community Colleges. Chuck Weinstock Washington State Board for Community Coll. Education Seattle Research and Planning Office 73.

APPENDIX C

LIST OF COMMUNICATION SKILLS AND TASKS

APPENDIX C

LIST OF COMMUNICATION SKILLS AND TASKS

Speaking

Demonstrating not understanding
Asking questions to clarify information
Ability to handle criticism
Enunciate clearly
Express ideas clearly and to the point
Ability to handle interpersonal relationships involving criticism
Ability to express own ideas
Speaks providing pauses for response
Give instructions orally
Provide necessary repetition
Avoid unnecessary repetition
Use telephone effectively
Explain a process or procedure or incident
Interview techniques
Tactful handling of complaints
Display oral tactfulness
Speak at listener's level of understanding
Utilizes various means to reach listener
Can interact with people to solve problems
Using voice effectively
Pronouncing words correctly
Selecting appropriate usage level
Use telephone effectively
Give instructions clearly
Question individuals to clarify information
Grammar
Express ideas clearly and concisely
Present technical data orally
Parliamentary procedure
Understand occupational terminology
Read aloud effectively
Public speaking
Participate in business meetings, conferences, group meetings
How to say "no" tactfully
Giving oral instructions
Express ideas clearly and concisely
Use oral language appropriate to the job situation
Tactfully question individuals to clarify information
Present technical data orally
Prepare, interpret or explain graphic illustrations (charts, graphs)
Tactfully give complete, concise, and clear oral instructions
Participate in a problem solving discussion group
Participate in information-giving discussion group
Maintain confidentiality concerning job-related information
Lead a problem-solving discussion group
Lead an information-giving discussion group
Use the telephone effectively
Greet customers or clients competently
Tactfully give complete, concise, and clear written instructions

Organize and conduct individual conferences
Organize and conduct group conferences
Successfully participate in initial and promotional job interviews
Persuade people to accept new ideas, change opinions or strengthen beliefs
Defend controversial positions
Give demonstrations with appropriate visual aids
Summarize and paraphrase materials.

Reading

Picking out main ideas
Read trade journals
Read technical manuals
Recognize propaganda
Being able to follow written directions
Uses leisure time for reading job-related information (job manuals, trade journals)
Appreciation and Evaluation of leisure reading
Read job-related information on the job
Pronounce and use words effectively
Complete job-related forms
Interpret and explain graphic illustrations
Read to comprehend job-related and technical materials
Skim for pertinent information
Use occupational terminology correctly
Read aloud effectively
Recognize fact from opinion
Reading development
Leisure time reading
Proofread and edit written material
Read aloud effectively
Understands written instructions
Read for main ideas and supporting details

Writing

Making your writing clear and to the point
Legible penmanship
Use of standard grammar and punctuation
Knowing when to use occupational jargon and slang
Spells correctly
Completely and accurately fill out applications and forms
(Invoices, job forms, work orders, charts)
Prepare a Resume
Compose an effective business letter
Writing memos to the point
Correctly use abbreviations and numbers in reports (Examples)
Writing directions (Examples)
Using a variety of methods to express ideas
Keeping written record
Note-taking
Selecting appropriate usage level and style

Complete job-related forms
Take notes effectively
Write business letters
Proofread and edit written communications
Write a report
Use grammar correctly
Spell correctly
Effective punctuation
Express ideas clearly, concisely and in an organized manner
Prepare written work neatly
Use occupational terminology correctly
Writing clear instructions
Justification of orders
Writing for publication
How to say "no" tactfully
How to resign a job gracefully
Present technical data in writing
Use grammar, spelling, and punctuation appropriate to the situation
Use written language appropriate to the job situation
Prepare written work neatly and accurately
Take notes effectively
Use abbreviations and numbers correctly in writing
Write a brief, informal report
Write a formal report
Prepare and complete job application forms
Obtaining, recording, and reporting information

Listening

Telephone techniques
Recognize and remember essential information
Understanding oral instructions
Recognize fact from opinion
Listen tactfully
Recognize and use feedback
Picking out main points and supporting reasons
Separating fact from opinion
Being able to follow oral directions
Filtering out extraneous noise
Listen without emotional interference
Listen without interrupting
Giving effective feedback
Demonstrating not understanding
Asking questions to clarify information
Listening carefully
Listen for errors in reasoning
Auditory Discrimination
Using resources to improve working skills
Reading for updated information
Distinguish between hearing and listening
Understand occupational terminology
Remember essential information
Accept constructive criticism
Listen for main ideas and supporting details

Understand and respond to non-verbal communication
Develop the skills of establishing criteria to perform objective
evaluation
Differentiate between subjective and objective evaluation

Miscellaneous

Tactful phraseology
Positive rather than negative approach
Being able to stay on the subject
EMPLOYERS - How important do you see the workers involvement in civic
and cultural affairs
GRADUATES - Do you feel you should have had more non-related com-
munication skills instruction combined with job-related instruction
EMPLOYERS - Do you believe that the involvement of the workers in
society can be beneficial to you as a result of employee's involvement
Appreciation and evaluation of media
Ability to develop and maintain personal relationships
How important do you feel Communication Skills are off the job
Maintain confidentiality concerning job-related information
Business manners
Handling initial contacts and interviewing
Work cooperatively with other employees
Lead a problem-solving or informational discussion group
Give attention to detail
Adjust to a variable work load
Meeting the public
Posture
Gestures
Eye Contact
Facial cues
Personal mannerisms
Awareness of personal appearance
Communicating Logically

APPENDIX D

COVER LETTER AND FORM REQUESTING SPECIFIED NUMBER OF NAMES,
ADDRESSES, AND FOLLOW-UP REPORTS AS SENT TO EACH VTAE DISTRICT
FROM THE STATE DEPARTMENT



State of Wisconsin \ BOARD OF VOCATIONAL, TECHNICAL & ADULT EDUCATION

January 2, 1975

EUGENE LEHRMANN
State Director
4802 Sheboygan Avenue
MADISON, WISCONSIN 53702

Mr. Orvis L. Johnson, District Director
Blackhawk
Vocational, Technical and Adult Education District
2228 Center Avenue
Janesville, Wisconsin 53545

Dear Mr. Johnson:

Subject: Developing and Verifying the List of Competencies
for the Communication Skills Area

The State Board has awarded a second grant to Mid-State Technical Institute to conduct a state-wide study to develop and verify the list of communication skills competencies. This project is a follow-up of the project Mid-State completed this year "Developing the List of Competencies for the Communication Skills Area", which will be mailed to each district. The first project involved 16 program areas. This second project involves an additional 13 program areas.

Most employers and employee graduates in the sample will be contacted by means of a questionnaire developed at the Communication Skills Workshop held on November 26 and 27 at Appleton. In order to complete this mailing the project staff will need two things:

1. The names and addresses of graduating students from the fiscal year 1972, 1973, and 1974.
2. 1972, 1973, or 1974 Follow-up Reports or names and addresses of employers.

In addition, because of limited funds, each VTAE district will be asked to conduct a few interviews of employers which are not contacted by questionnaire. Districts will be informed as to which employers are to be sent questionnaires and which are to be interviewed. Orientation of interviewers will be conducted.

On the enclosed sheet is a listing of specific programs that are offered at your school and the number of student names and addresses requested from each program. These should be randomly selected and equally divided among the three years if possible.

Mr. Orvis L. Johnson
January 2, 1975
Page 2

Your assistance in continuing this project will be greatly appreciated.
Would you please send these names and addresses to:

Dr. Max Farning
Administrator - Research and Planning
510 - 32nd Street North
Wisconsin Rapids, Wisconsin 54494

If you have any questions, please telephone Dr. Farning (715/423-5650).

Thank you.

Sincerely,

Eugene Lehrmann
State Director

EL/RJK/jnk

Enc.

cc: Dr. Max Farning

DEVELOPING AND VERIFYING THE LIST OF
COMPETENCIES FOR THE COMMUNICATION SKILLS AREA

Number of Names
and Addresses Needed

Business Tech

31-103 Business Machines

Industrial

31-404 Auto Mechanic

32-404 Auto Mechanic

31-404 Auto Body

31-442 Welding

31-404 Small Engine and Chassis Repair

31-204 Printing

31-414 Electronic Servicing

32-414 Electronic Servicing

Service

10-503 Fire Science Technology

10-504 Police Science Technology

31-520 Child Care Assistant

Health-Tech

31-508 Dental Assistant

Technologies

10-513 Medical Laboratory Technician

10-605 Instrumentation

APPENDIX E

MEMBERS OF AD HOC COMMITTEE

MEMBERS OF THE
AD HOC COMMITTEE

Elaine Boyce
Research Assistant
Mid-State Technical Institute

Dr. Max Farning
Administrator-Research and Planning
Mid-State Technical Institute

Stanley Felber
Department of English
Milwaukee Area Technical College

Tommi Gebhardt
Communications Department
Moraine Park Technical Institute

Louis J. Janda
Communications Department
Northeast Wisconsin Technical Institute

William K. Wolfe
Communications Department
Southwest Wisconsin Vocational-Technical Institute

APPENDIX F

COVER LETTER AND QUESTIONNAIRE SENT TO SUPERVISORS (EMPLOYERS)

Mid-State Technical Institute

WISCONSIN RAPIDS CAMPUS
Five Hundred 32nd Street North
Wisconsin Rapids, WI 54494
715/423-5650

Bader Welding, Supervisor of Welders
1204 Plain Street
Wisconsin Rapids, WI 54494

Dear Sir:

Mid-State Technical Institute at Wisconsin Rapids is conducting a survey for the Wisconsin Board of Vocational, Technical and Adult Education. The purpose of this survey is to determine what communication skills should be taught in vocational-technical institutes located throughout Wisconsin.

Because our schools are interested in providing employers with highly qualified graduates, it is your advice and counsel that can provide us with the answers we need. How important are communication skills for your employees? To help us measure the importance of these skills, we are enclosing a questionnaire that we would like you to complete.

We would appreciate a prompt return so this information can be made available to all communications teachers in the Wisconsin Vocational, Technical and Adult Education Institutes. The results of this survey will enable teachers to better prepare students for your area of occupational employment.

All of your responses will be treated confidentially.

Please return the questionnaire in the self-addressed, postage-paid envelope.

WE SINCERELY THANK YOU.

Sincerely yours,

Max Farning, Ph.D.
Administrator-Research and Planning
Project Supervisor

Elaine Boyce
Research Associate
Communication Skills Project

MF:EB:nb

Enclosures

QUESTIONNAIRE

This QUESTIONNAIRE should be
Completed by The
WELDERS' SUPERVISOR
Or Person in Similar Position

WHERE ARE YOU EMPLOYED:

(Name of Company)

EMPLOYER'S ADDRESS:

(Address)

(City)

(State)

(Zip Code)

YOUR JOB TITLE OR DESCRIPTION:

In your opinion, to what extent are the following communication skills important to employees that you supervise. Please indicate the level of importance of each of the skills by placing an "X" in one of the columns.

Extremely Important

Very Important

Important

Moderately Important

Not Important

Read to comprehend job-related journals and technical materials

Listen carefully and impartially

Give instructions orally

Recognize, understand, and remember essential information

Spell correctly

Distinguish main ideas from supporting details

Use telephone effectively

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Use communication skills to cooperate with others					
Write technical reports					
Give criticism in a constructive manner					
Write brief reports (Memos, informal reports, etc.)					
Follow grammatical standards in speaking					
When writing express ideas clearly and to the point					
Demonstrate your own listening through feedback (Observable response)					
Question to clarify information					
Handle relationships with customers or clients competently					
Prepare and present data orally					
Write directions and procedures					
Take notes					
Identify own strengths and weaknesses in communication skills					
Adapt message to reading and listening audience					

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Prepare and present information in graphic form (Charts, graphs, models, etc.)					
Use communication skills to bring about cooperation with others					
Maintain confidentiality concerning job-related information					
Participate in problem-solving or informational discussion group					
Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)					
Be able to speak informally before a group of people					
Follow grammatical standards in writing					
Persuade people to accept new ideas, change opinions, or strengthen beliefs					
When speaking express ideas clearly and to the point					
Understand occupational terminology					
Be able to stand up and speak before a group of people					
Make judgments and respond without emotional involvement					
Proofread and edit written documents					
Recognize and carry out public relations activities					

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Punctuate correctly					
Read quickly (skim) for important information					
Be tactful					
Summarize materials					
Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)					
Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)					
Accept criticism					
Distinguish fact from opinion					
Receive complaints					
Compose an effective business letter					
Gather and organize information					

ADDITIONAL COMPETENCIES:

COMMENTS: (Use back side if necessary)

APPENDIX G

COVER LETTER AND QUESTIONNAIRE SENT TO VTAE GRADUATES

Mid-State Technical Institute

WISCONSIN RAPIDS CAMPUS
Five Hundred 32nd Street North
Wisconsin Rapids, WI 54494
715/423-5650

Ms. Nancy Boyles
921 Wisconsin Street
Wisconsin Rapids, WI 54494

Dear Ms. Boyles:

Mid-State Technical Institute at Wisconsin Rapids is conducting a survey for the Wisconsin Board of Vocational, Technical and Adult Education. The purpose of this survey is to determine what communication skills should be taught in vocational-technical institutes located throughout Wisconsin.

You, as an employee and as a graduate of a vocational-technical school, are in a unique position to provide us with the information that we need. How important are communication skills in your occupation? To help us measure these skills, we are enclosing a questionnaire that we would like to have you complete.

We would appreciate a prompt return so this information can be made available to all communications teachers in the Wisconsin Vocational, Technical and Adult Education Institutes. As a result of your employment since graduation, you are in an excellent position to provide us with information on the importance of communications courses, as well as topics to be included in communications courses.

All of your responses will be treated confidentially.

Please return the questionnaire in the self-addressed, postage-paid envelope.

WE SINCERELY THANK YOU.

Sincerely yours,

Max Farning, Ph.D.
Administrator-Research and Planning
Project Supervisor

Elaine Boyce
Research Associate
Communication Skills Project

MF:EB:nb

Enclosures

QUESTIONNAIRE

WHERE ARE YOU EMPLOYED: _____

(Name of Company)

EMPLOYER'S ADDRESS _____

(Address)

(City)

(State)

(Zip Code)

YOUR JOB TITLE OR DESCRIPTION: _____

In your opinion, to what extent are the following communication skills important in your work. Please indicate the level of importance of each of the skills by placing an "X" in one of the columns.

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Read to comprehend job-related journals and technical materials					
Listen carefully and impartially					
Give instructions orally					
Recognize, understand, and remember essential information					
Spell correctly					
Distinguish main ideas from supporting details					
Use telephone effectively					

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Use communication skills to cooperate with others					
Write technical reports					
Give criticism in a constructive manner					
Write brief reports (Memos, informal reports, etc.)					
Follow grammatical standards in speaking					
When writing express ideas clearly and to the point					
Demonstrate your own listening through feedback (Observable response)					
Question to clarify information					
Handle relationships with customers or clients competently					
Prepare and present data orally					
Write directions and procedures					
Take notes					
Identify own strengths and weaknesses in communication skills					
Adapt message to reading and listening audience					

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Prepare and present information in graphic form (Charts, graphs, models, etc.)					
Use communication skills to bring about cooperation with others					
Maintain confidentiality concerning job-related information					
Participate in problem-solving or informational discussion group					
Understand and respond to nonverbal communication (Facial expressions, gestures, postures, etc.)					
Be able to speak informally before a group of people					
Follow grammatical standards in writing					
Persuade people to accept new ideas, change opinions, or strengthen beliefs					
When speaking express ideas clearly and to the point					
Understand occupational terminology					
Be able to stand up and speak before a group of people					
Make judgments and respond without emotional involvement					
Proofread and edit written documents					
Recognize and carry out public relations activities					

	Extremely Important	Very Important	Important	Moderately Important	Not Important
Punctuate correctly					
Read quickly (skim) for important information					
Be tactful					
Summarize materials					
Complete job-related forms (Reports, purchase requisitions, invoices, sales receipts, orders, etc.)					
Speak with good voice techniques (Enunciation, volume, tone, tempo, etc.)					
Accept criticism					
Distinguish fact from opinion					
Receive complaints					
Compose an effective business letter					
Gather and organize information					

ADDITIONAL COMPETENCIES:

COMMENTS: (Use back side if necessary)

THANK YOU!

APPENDIX H

COVER LETTERS FOR SECOND MAILING

Mid-State Technical Institute at Wisconsin Rapids is conducting a survey for the Wisconsin Board of Vocational, Technical and Adult Education. The purpose of this survey is to determine what communications skills should be taught in vocational-technical institutes located throughout Wisconsin.

You, as an employee and as a graduate of a vocational-technical school, are in a unique position to provide us with the information that we need. How important are communication skills in your occupation? To help us measure these skills, we are enclosing a questionnaire that we would like to have you complete.

We would appreciate a prompt return so this information can be made available to all communications teachers in the Wisconsin Vocational, Technical and Adult Education Institutes. As a result of your employment since graduation, you are in an excellent position to provide us with information on the importance of communications courses, as well as topics to be included in communications courses.

All of your responses will be treated confidentially.

Please return the questionnaire in the self-addressed, postage-paid envelope.

WE SINCERELY THANK YOU.

Sincerely yours,

Max Farning

Max Farning, Ph.D.
Administrator-Research and Planning
Project Supervisor

Elaine Boyce

Elaine Boyce
Research Associate
Communication Skills Project

MF:EBcam

Enclosures

APPENDIX I

COMMENTS RECEIVED FROM EMPLOYERS

COMMENTS FROM EMPLOYERS
(AS RECEIVED)

Auto Mechanics

"The most important thing is to learn to communicate with everyone around you, the people who work for you as well as those who work with you. They all have ideas that may be of some help in some area of your operation."

**

"If I could have employees with all of these abilities, myself included, I would have an extremely fine work force."

**

"There is an extremely big future for the mechanic who wants to become a craftsman. We need the exceptional people also need top Auto Men."

* *

Business Machines

"Since you don't define "business machines," it is difficult to check a box. My mind runs from a 10-key adder to a computer when I think of a business machine. Operators are do-ers and do-ers are not required to be great communicators. That's a sad commentary on American Business, but that's the way it is!"

**

"Communication skills for this group is very important in their daily contact with supervisors and other employees."

**

"This questionnaire is too broad for a Business Machines Operator's position. Much of her work is using an adding machine or a calculator and working alone."

* *

Child Care

"In our experience we have found that job related training and experience have been most helpful in the way our employee's handle clients."

**

"In day care there is always a need for people to be able to talk with parents in a discriminating manner."

**

"All points stipulated are essential. However, it all depends on how much responsibility is relegated to the child care assistants. In some agencies a few of these skills are assigned to specific staff personnel."

**

"Students should go into role play situations and be video taped."

"I've hired Technical School Students and find they do not know what the word work really is and how they act and react towards adults and children. They or students going into the field of child care should be selected and interviewed! "The people that select and interviewed should come from the Day Care field." If you have never

COMMENTS FROM EMPLOYERS
(AS RECEIVED)

Child Care

worked in the field of working with children and helping too scrub floors etc. how do you know what really goes on in the business."

"To date students that have come out of the program really are not well prepared! Much theory but not much else."

Items Needed In Voc. Tech. Child Care Program

1. Older or more mature students that have lived and worked in the outside world before going into the field of child care.
2. Selection and testing of prospective applicants. (weed out losers)
3. More outside work experience rather than classroom.
4. Role play and video taped classroom.
5. Better promotion of students to the Day Care Centers.

* *

Dental Assistant

"Understand personalities-be compassionate."

**

"Neatness, promptness, enthusiastic, friendly, physically healthy orally healthy, etc."

**

"To smile, to not let irrational people anger one. To be tolerant. To be neat, have good personal hygiene. To treat others with respect and friendliness, to try harder and work hard."

"These assets are worth a thousand misspelled words and comma's where a semi colons should be."

* *

Fire Science

"I feel one of the most important skills necessary in the fire service is "good public relations."

**

"It's obvious that every item listed is extremely important to someone on our department, depending on his rank and responsibilities."

"In marking the various categories, an average of what the many ranks would require, was considered."

"Certain categories are extremely important to Chief Officers but would be of little concern to a new recruit."

* 139 *

COMMENTS FROM EMPLOYERS
(AS RECEIVED)

Instrumentation Technicians

"All aspects of communication are extremely important."

* *

Medical Laboratory Technicians

"A medical laboratory technician must be able to accurately perform all routine laboratory procedures and recognize, identify and solve simple technical problems. He should be able to efficiently organize his work and require only a minimum amount of supervision."

* *

Police Science

"While doing this survey I had a Patrolman in mind. Each of the areas mentioned in this survey is extremely important in a given situation. I attempted to take an all over view of the Patrolman duties, i. e. Patrolman compose very few letters, but when they do it must meet the proper standards for a business letter. No areas are not important."

**

"In any courses related to police work which our officers would be interested in. I feel anything helping them to communicate with people and understand them to the best of their ability is of utmost importance."

"All qualities or traits listed are important to extremely important if a police officer is to be rated to the very top of his profession."

* *

Printers

"The two most glaring weakness, according to experiences is this office are complete lack of knowledge of the English language which is appalling and in ability to work according to schedules and deadlines. These two deficiencies make it extremely difficult to receive an application from a Vocational Technical School student with any enthusiasm or assurance in a newspaper office."

"Having had experience with students from and I feel very strongly about the points I make. I have one in a paste up job now who is trying to pass off her work without it being proofread, even because she knows that I'll find a spelling error. She won't even check herself with a dictionary right at her reach."

"I'm sorry, I'm steamed up about this situation, but I can do better with a high school student who wants to learn than I can with a Vocational Technical student, who comes with recommendations of her instructor that she is fully qualified."

* *

COMMENTS FROM EMPLOYERS
(AS RECEIVED)

Small Engines

"It is important to distinguish skills required to be a repairman from those required to move up to a service management position. The level of verbal, written, and graphic skills required for promotion is a significant level above those indicated above."

*

*

Welders

"A technician is only as good as his communicative skills. If he cannot express his ideas, knowledge and findings, he is worthless as a technician."

"A weldor can get by without as much communication skill, but isn't as useful as the weldor who can express his ideas and problem areas."

"This is the most lacking area in both weldors and technicians. Simple data gathering, organizing a problem study, verbal and written communication all seem like a mountain to most. They are afraid to try. When pushed and coached, they often respond beyond expectation, so they have the skill. The skill has just not been needed, asked for or the person has been afraid to try."

"This is a good thing to work on."

"Our technicians have come from our shop weldors primarily because of their working knowledge of our magnitude of complex products. We also know of their technical and manipulative skills and personality thru years of testing and special assignments we've had these men on."

"We do work with . . . and . . . and will someday hire a schooled technician who is knowledgable in the basics but is well versed in communicative skills and is not adverse to a lot of paperwork."

"We use our technicians and . . . to train all our weldors. Every weldor is qualified to successively higher skill levels and cannot weld on a job until trained and he passes the qualification test. We conduct about 600 successful qualification tests each year. We fail about 18% of our trainees."

*

*

APPENDIX J

COMMENTS RECEIVED FROM EMPLOYEES

COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Auto Body

"I think the vocational school systems are very worth while and I don't have any regrets what so ever."

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"Writing skills very rarely used. In both places I've worked, getting along with others is the most important thing. At this beginning stage most of the men I work with know more from experience and are happy to pass it on if they know you're interested."

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"The most important to me in Auto Body work is talking to people and to be tactful in handling their problems."

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"Being a Body Man you don't really do a lot of these things, but if you work in a small shop you must be able to do most of them, because when the boss isn't present one must take over to an extent."

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Auto Mechanics

"In my line of work I have no need to right reports or talk to large groups in this form or questionnaire. 90% of your questions do not pertain to me or any other mechanic that I know. It sounds more like a english teacher should fill this out."

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"I went to school at . . . and the teacher I had couldn't get past High School Techniques more competent teachers would be nessecary. I'm glad someone asked."

**

"Working I find it very helpful to have had some of the communication courses, but it didn't sink in much, I would of have liked to have had something like that in grade or high school when a person is still really learning and setting his base ideas of communication."

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"I've often found in my daily life. (not pertaining to my job) I really wish I could have a bigger vocabulary. I find I can't express things fully and the way I wish I could."

**

"To be able to communicate well with my customers, with the economic state the country is in now, may mean the difference between making a sale and keeping a customer or loosing both. I think it is very important to be able to say the right things to people at the right times. I think I can say that the communication class that I took in . . . help me in this area."

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"The most important part of my work to me is to be able to listen and except verbal garbage from self-sentered egotistical fellow employies with out letting it effect your work."

**

COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Auto Mechanics

"As important as those are to me listed above, I don't believe the communications skills class was that important. Not that it was taught wrong, but what I learned in grade school and high school English classes would be enough for my type of work. To make that class effective, it should be related more towards auto mechanics for the auto mechanics students, which I believe would be pretty hard to do, but if it can be done, it would be very interesting."

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Business Machines

"I feel the class at . . . of which I was involve appeared to be a contenuation of my grade school English Class. It needed improvement greatly. I learned nothing in the 9 months at . . . in the Com. Skills classes. Hopefully yours are more advanced and comprehended at a higher level."

**

"I took the business machines course mainly to get subjects that I needed for a future nursing course of which I am very much interested. I did look into jobs in that field that were listed but the hourly rate was so much less that I was unable to accept anyone."

**

"Getting along with a person or customer on his phone who is upset. The point of trying to get along with someone you dislike greatly for the good of your work and co-workers. In my work I do very little correspondence work, but I use telephone tactics greatly. People call about bills and you have to explain the bill in a way in which they will understand."

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"Being able to accept criticism is very important and then do something to make yourself better."

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Child Care

"To be effective I feel that the students in a Communications Class should be involved in activities outside of the classroom. First hand experience is the best way in my opinion to acquire any type of experience."

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"I took a communications skills class in technical school, which I personally enjoyed very much. Many people did not like it and complained a lot, however. I enjoyed the units and the work, but felt I was pushed too hard just to finish the projects and get good grades. I feel that either more time and, or, a bit less work or units would have helped. I really wanted to work harder at each unit and incorporate the skills in my life, but I felt I couldn't because I always had to move on to the next project, so I could be finished with the course on time. Thus the past work was more or less pushed aside and forgotten."

COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Child Care

"The courses I had taken at school proved to be very helpful but I do wish I would of kept a better file of the ideas and crafts presented in class."

**

"In the job I have we do not write very much it is almost all oral."

**

"Would these communications courses be included in future vocational courses? Will results of this survey be made public? I am happy to be of any assistance to your program."

**

"I think communications is a very complete course. It not only helps in dealing with people but it helps you gain self confidence in communicating with all types of people."

**

"When I took Communications Skills at . . . I feel it was not at all advantageous, especially for what I am doing now. I feel in no way has that course helped me in the line of work I do."

**

"I did not take a communications course at . . . because I had it transferred from another school. In general I've found such courses to be impractical and unrelated to real life situations."

**

"The communication skills that I marked "not important" do not pertain to the field of work I am in, but I am glad to be of some help by filling out this questionnaire."

**

"I feel it is important to have confidence in yourself and your abilities. Learn to stick up and defend yourself."

**

"Additional phonics needed especially in child care courses. I feel it is very important to punctuate and spell correctly. I often find myself wondering about commas (they're sometimes tricky.) Also, I help teach spelling and it is very important to speak clearly and with an even tone of voice."

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"Considering that the children in our classroom need highly individualized attention in the areas of reading, writing and spelling, I feel it is essential for me to have a rather firm background in these areas."

"Two other areas of concern in our classroom are speech difficulties and the inability to communicate with others. In these cases, it is necessary for me to speak fluently, and with much ease and confidence."

"I feel I have maintained the basic skills (through . . . communications course) necessary for me to function in the classroom."

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COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Dental Assistant

"I feel that my 2 semesters of English were really a waste of my time! The first semester was an unreal disaster. The male teacher disliked having a class of females when he'd been teaching males."

"Absolutely nothing was taught to us in that class. It was extremely ridiculous. Notice: no spelling taught. The 2nd semester proved to be very, very interesting. It consisted of movies and the techniques used in them. The rest of the semester consisted of giving a 15 minute talk which proved to be interesting and educational. They were all put on video tape and played back. Not only did you experience the speaking in front of an audience, it was played back and criticized."

"As for the questions, I answered the best I could. The only part that I could relate to was the oral speaking and contact in my everyday life."

**

"Books and classes and tests will not be very helpful unless you can communicate with people esp. your boss. Also doing a project is very different from just reading about it. I did poorly on tests but I could demonstrate and did excellent in lab work! Quite a difference, I believe grades should be based more on that! You won't be studying on a job, you will probably be doing something."

**

"I think communication skills are equally if not more imp. than the mechanical skills of the dental assistant. If she can not reach her patients in education or communicate with her employer and fellow employees she will not be able to effectively use her mechanical skills."

"Both pos. and neg. feedback are essential for anyone to receive. When a good job is being accomplished-pos. reinforcement should be given to encourage continuation. Any neg. behavior should also be dealt with in a constructive manner and it should be timely."

"I am happy to see a questionnaire like this. In so many fields the technical work or excellence is very highly stressed but communication skills are barely touched upon."

"I hope my comments are helpful to you."

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Electronic Servicing

"Be able to fill out a job application intelligently."

"The communications course should be related to the type of people and work each group of graduates will see in their job related field."

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COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Electronic Servicing

"I believe the English course was a waste of time. I had had all the English given in tech. in Jr. High in I felt it was a waste of time and could have been better spent in some tech. course."

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Fire Science

"If you are a member of a fire prevention bureau, then the speaking, and written communication skills, are of the utmost importance. However, if you are a fire-fighter, it is most imperative that you understand spoken commands, and for test purposes, are able to read rapidly, and comprehend readily."

"What I am saying is that the individual involved in an associate degree program should tailor his needs too the area of duty that he intends to pursue. This was not pointed out to me when I attended, and further, some of the courses which were "required" were of little value for the line-of-duty which I intend to pursue."

"Generally, the communication skills are of extreme importance to fire-fighters, and any learning in this area will benefit the municipality, and the individual greatly."

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"Communications skills is the basic tool if one wishes to succeed in his field."

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"Communication skills are a definite must in the Fire Science Field."

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Instrumentation

"Communications does not begin nor end with written, verbal and expression as forms of communications. One aspect too often over looked these days is proper dress. Appearance is a form of communication that almost always "speaks" first and the loudest on initial contact with others."

"Being in sales of a technical nature I could honestly check everyone of the communications skills as extremely important, however, I attempted to separate them according to degree of importance. Everyone is important, of course, depending upon the situation."

**

COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Instrumentation

"In my position as an electrical tester, I am expected to test a product according to accepted procedures. Communications skills, language arts, public speaking, enunciations skills, language arts, public speaking, enunciations, etc. have only a minor effect in my job. My supervisor can't spell worth a darn, enunciate clearly or effectively speak before a group, nor can others in management in my department."

"I am personally appalled at the lack of writing skills displayed by my fellow employees, but find that this does not keep them from advancing in their jobs if they have some resemblance of technical skills."

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Medical Laboratory Technicians

"In my job it is extremely important to ask questions when one does not understand something. A patient's life sometimes depends on it."

"Also, I believe that teaching correct grammar punctuation etc. is a waste of time for people in a program such as the I believe that by this stage of the game, students should already know those simple facts."

"The time used on that could be better put to use by having some sort of group discussion on problems that arise as the result of day to day relationship with supervisors, fellow workers, nurses, unit clerks and especially Doctors."

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"Communications skills take the backfield to technical knowledge and manual dexterity!"

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"Communications skills should not be too generalized. I think it would be extremely helpful to students if their class was geared to their profession. EX: Business ED. Communication Skills, Medical Comm. Skills, Industrial Arts Comm. Skills. If classes were categorized in this matter, the subject would be very tailored to fit the students, exact needs and not have so many non-applicable chapters to go through."

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Police Science

"Communication skills are important in any type of work but I feel they are extremely important in police work. I enjoyed and learned from the communication courses offered at the Technical School I attended."

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"In my own case I wish I would have had more help in the areas of public speaking, report writing and grammar in general. I am in the predicament now of just getting into public speaking and the preparation of these talks is a rough area for me. I know that when I took Police

COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Police Science

Science at . . . communication skills was one of my least favorite subjects. This I believe was partly my fault but also partly the way it was presented."

"Because of the importance of public relations I feel one area that should be stressed more is the public speaking area."

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"It is my personal opinion that oral communications is the most important part of human relations. Communications between people, whether it be lateral between supervisors or up and down between those in command and the youngest employee, can make a vast difference in the effectiveness and morale of any organization."

"This same communications is a vital part of our lives, even in marriage."

"If VTAE Communications Skills classes can teach this kind of communications they would be contributing a great service to all."

"Grammatical standards in writing and speaking are taught in the elementary and secondary school systems. If one is in need of these skills then they should be provided as an alternative to communications skills."

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"My communications skill classes I had in Technical School were one of the most valuable tools I obtained for my trade. Everyone who attends Technical school should take at least three different related Communication Skills classes."

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Communication with people effectively whether verbal, facial, written or otherwise is the key to almost any job, along with the skill needed for the job. It is important, so important that your ability will determine your future. This should be the base of which our skills are added to."

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"I feel a good understanding of communication skills is necessary for a police officers to show the public that todays police officer is not hired because he is the biggest or the strongest, but instead has common sense and knowledge which enables him to do his job in a professional manner."

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Welding

"Communications Skills are important, the problem is most of us don't like to study to improve them."

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"There is no communication between blue collar workers and white collar company men."

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COMMENTS FROM EMPLOYEES
(AS RECEIVED)

Welding

"I was taught just my basic job of welding without any background for promotion in related positions such as in my case, chief of maintenance. I do, however, feel the basic communication instruction I received was great, but should be a bigger part of the vocational program."